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THE UNIVERSITY OF ALBERTA

ANALYSIS OF A PLANNED CHANGE IN AN EDUCATIONAL SYSTEM

by

© STEVEN JAMES SIMPSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled ANALYSIS OF A PLANNED CHANGE IN AN EDUCATIONAL SYSTEM

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ABSTRACT

The purpose of this study was to test the usefulness of a conceptual model--Miller's "Model of a Systems Approach to Problem-Solving"--to facilitate an understanding of the change process in a particular change attempt. The model was tested by applying it in the analysis of a case study of an innovative attempt; namely, the reorganization of the extra-curricular sports program in an Edmonton school.

In order to develop an accurate account of the specific innovative attempt, data were obtained from discussions with the school's administrative staff, teaching staff, and student body; a document search of the school's physical education files; and formal interviews with thirty of the school's staff. In order to test Miller's "Model of a Systems Approach to Problem-Solving", an interview schedule was developed based on the nine steps inherent in Miller's model. This schedule was used in interviewing thirty of the school's staff. These interviews were taped, transcribed, categorized according to the nine problems to be studied, and finally data within each category were grouped according to similarity of responses.

It was found that the innovative attempt did not always follow the sequence of steps suggested by the model being tested. Specifically, following the development of an awareness and/or need for change, a "problem to solution jump" occurred. Following this jump to a solution the change process reverted to the initial stages of Miller's model which had been previously omitted. It was also found that those people involved in the innovative attempt placed a major emphasis on developing

the innovation while little attention was given to its implementation and evaluation.

Although the innovative attempt did not progress through the sequence of stages outlined by Miller, the model does appear to be appropriate for analyzing the process of change. Moreover, it could be utilized as a framework to guide administrators in planning change.

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CHAPTER 1

INTRODUCTION

Context of the Study

The analysis of planned change in educational institutions is perhaps one of the most intensely researched areas in the field of educational research. It is also an area that has yielded more conflicting, confusing, and inconclusive findings than most other fields of educational research. Much of this confusion, conflict, and inconclusiveness may be the result of the failure of social scientists to link their research to an adequate theory of social change. This failure stems from the absence of any really adequate theory of social change (Miles, 1964, 12).

During the past two decades education has experienced increasing internal and external pressures for change and innovation. Attention has focused on the individual innovator, the properties of the particular innovation, the need to adapt to changing times, and the adaptive function. Investigations (Deal et al., 1975; Heathers, 1976; and Buchanan, 1967) suggest that though education has been struggling to adapt to its rapidly changing environment and to become more innovative, the number of successful innovations in education has been minimal. Furthermore, it has been reported that some people are questioning the extent to which educational innovations, which are claimed to have been implemented, have in fact been implemented.

Schools, in the past, when introducing new practices have generally placed major emphasis on the substance of the innovation, its merits and shortcomings. This emphasis may explain why many innovations have failed, or at least not lived up to expectations. Recently, emphasis has shifted from studying the innovation itself, to the actual process involved in innovating. Numerous concepts and conceptual models have been formulated that deal with the change process. Conceptual models have been utilized to analyze innovative attempts and have consequently revealed a number of errors and oversights which have either resulted in failure of the new idea or have detracted from its potential contribution. However, many of these concepts and conceptual models have not, as yet, been adequately tested. One method of testing them is by applying them to an actual innovative attempt. More specifically, by the use of the case study method.

Purpose of the Study

The purpose of this study was to test the usefulness of a conceptual model--Miller's "Model of a Systems Approach to Problem-Solving"--to facilitate an understanding of the change process in particular change attempts. The study also set out to develop an intensive case study of a single school in the process of change; namely, the reorganization of the extra-curricular sports program at O'Leary School. The model was tested by applying it in the analysis of the developed case study of the innovative attempt.

Significance of the Study

The results of the study should facilitate a better understanding of the process of change. Specifically, the study may:

1. justify the use of a specific conceptual model as a tool in the analysis of planned change;

2. help clarify some aspects of why an innovation is adopted or rejected;

3. help administrators formulate better plans for implementing innovations; and

4. reveal to the administrators of O'Leary successes and deficiencies in the innovative attempt. This information may be used to increase the acceptance and success of the innovation.

In addition the conceptual model may facilitate the formulation of new concepts or the substantiation of existing concepts with respect to the process of change.

Assumptions

The following assumptions have been postulated by the writer for the purposes of this study:

1. The case study of an innovative attempt is relatively unbiased and accurate.

2. The sample of staff members that were interviewed were representative of the population of staff of O'Leary.

Delimitations

1. This study concerned itself with the case study of a particular innovation in a specific school. Other innovations or schools were not studied.

2. This study was confined to analyzing the process of change. It is not primarily directed at an evaluation of the process of change

or at an evaluation of the innovation itself.

3. This study focused on analyzing the change process by the use of a specific model. The model does analyze the change process from its own unique perspective.

4. This study focused on the perceptions of the staff of O'Leary. No attempt was made to encompass the perceptions of the students of O'Leary or people outside of O'Leary.

Limitations

The writer acknowledges the following limitations inherent in the interview method employed:

1. Individuals may interpret questions differently.

2. Answers are partly a function of the way in which questions are asked.

3. Respondents may not have the information necessary to answer given questions.

4. Data received are dependent upon the honesty and sincerity of the respondents.

5. Respondents may be unduly helpful by attempting to anticipate what the researcher wants to hear or find out.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND REVIEW OF RELATED LITERATURE

This chapter deals with the process of change. Numerous concepts have been formulated which deal directly with this process. This study does not focus upon a specific concept, but is based upon a multiplicity of ideas and approaches.

The literature reported in this chapter is by no means an exhaustive examination of literature on educational change. Havelock (1971), in a recent review of literature, identified over 4,000 relevant studies in the area of innovation, and estimated that he had probably failed to locate an equivalent number. In view of this mass of literature on the subject, accumulated over the past two decades, the writer has found it expedient to be selective and hopes that the authorities he has drawn from will develop further the context of the problems enumerated in the next chapter. Toward this end, the following topics will be reviewed: 1) the context of planned change, 2) the phases of planned change, 3) approaches to describing planned change, 4) strategies for implementing planned change, and 5) a specific model for analyzing planned change.

Introduction

In dealing with the change process, researchers have found it necessary to classify change into various types. Rogers (1971, 8) has categorized social change according to its sources. He identifies two

categories: immanent change and contact change. When the source is from within the social system, it is termed "immanent change" and when the source of the new idea is outside the social system, it is referred to as "contact change." Contact change is further delineated as being either selective or directed. If the recognition of the need for change is internal, it is called "selected contact change", and if the recognition is external, it is termed "directed contact change." Moreover, Gross et al. (1971, 19) have noted two types of change. In contrast to the study of planned change; that is, change that is a consequence of conscious, deliberate efforts to improve the operations of a system, there is the study of unplanned change; that is, change that is not a consequence of conscious, deliberate efforts to improve the functioning of a system.

This review will not include work related to unplanned change or contact change, since the study has been limited to focus on a specific planned change of immanent nature. The review will also be limited to the field of organizational change.

The Context of Planned Change

During the past two decades education has been characterized by a climate that favored innovation over maintaining the status quo (Baldridge and Deal, 1975, 2). In fact, during this time education has experienced increasing internal and external pressures for change and innovation, resulting in a remarkable rate and diversity of educational change (Miles, 1964, 1). Both Heathers (1974, 2) and Miles (1964, 8) allude to the causative factors of this climate for change in education. First, the launching of the Soviet Sputnik caused a struggle for

national survival that manifested itself in an impetus for curriculum reform. Second, this was a period of general social change. For example, a civil rights movement was gaining impetus and the movement of "new humanism" was developing. These movements created both new demands and new forces for change. Third, this was a period of tremendous growth in knowledge and technology, both of which had considerable influence in changing the core of education. Finally, there was the sheer size and growth of education to be accommodated.

Toffler, in Future Shock (1970), suggests that most people and organizations are unprepared to cope with the accelerated rate of change. When change occurs too rapidly, the capacity of the organization to react is strained, creating the danger of future shock. In an era of accelerating change, the organization's degree of excellence is judged, in part, by its ability to cope with change. Organizations either become more adaptive, flexible, and anticipative or they become rigid, stagnant, and react to change only after the fact, often when it is too late.

During this time of increased educational innovation, attention had focused on the individual innovator, the properties of the particular innovation, the need to adapt to changing times, and the need for new structures and roles through which to perform the adaptive function (Miles, 1964, 12-13). However, Baldridge (1975, 171) reports that in the past, research has focused on the wrong cluster of variables. He specifies these variables as: 1) the early phases of the innovation cycle, 2) the concentration on small-scale technical innovations, and 3) the individual biases that have hindered the understanding of major organizational innovation. This past emphasis may help explain why many

innovations have failed, or at least not lived up to expectations. Specifically, investigations by Deal et al. (1975, 116) suggest that although education has been struggling to adapt to its rapidly changing environment and to become more innovative, the number of successful innovations has been minimal. In fact, Gross (1971, 207) reports that many students of change are questioning the extent to which educational innovations that are claimed to have been implemented have in fact been implemented. Heathers concurs with Gross's findings, stating that, "Local change programs in education tend to be those programs that make the most apparent change with the least actual change." (Heathers, 1974, 13)

Barnard (1938) and Argyris (1969), among other management theorists, have noted that the truly effective organization is one in which both the organization and the individual can grow and develop. Such an environment may be termed a "healthy" organization. Numerous writers (Barnard, 1938; Argyris, 1969; and Bennis, 1969) suggest that one important criteria of organizational effectiveness is adaptability; that is, the ability of the organization to solve problems and react with flexibility to changing environmental demands is one important aspect of organizational effectiveness. This suggests that by increasing an organization's ability to adapt to its changing environment it can be made more effective. Miles (1969, 18-21) has identified ten dimensions of organizational health: 1) goal focus, 2) communication adequacy, 3) optimal power equalization, 4) resource utilization, 5) cohesiveness, 6) morale, 7) innovativeness, 8) autonomy, 9) adaptation, and 10) problem-solving adequacy. These writers suggest that if the educational system is to improve its effectiveness, it must more

readily adapt to its rapidly changing environment.

Recently, emphasis has shifted from studying the innovation itself, to an examination of the actual process involved in innovating. Bennis (1961) notes that there has been a shift from an ideological study of change to a technical one. In other words, a shift from "should we seek change?" to "how do we plan change?" Baldridge suggests that analysis of the change process should ". . . concentrate on complex technologies with unclear evaluations, shift focus from individualistic variables to roles and organizational structure, and examine environmental factors closely." (Baldridge, 1975, 171). Finally, both Bennis (1969) and Miles (1964) agree that there currently exists no adequate theory of social change. Miles further states that:

> . . . while a substantial body of empirical information on change in social systems of various sizes has accumulated, there is really no adequate theory of social change. . . .
>
> It is also fair to assume that increased clarity in our conceptualizations can lead to more intelligent control of change processes in education. (Miles, 1964, 12)

The Phases of Planned Change

As a process, planned change can be delineated according to a number of phases or stages. Depending on the writer's orientation to change, the phases vary. Rogers (1962) suggests that each individual passes through five phases in adopting a new idea. The speed at which an individual passes through these phases and the emphasis each individual places on each phase also vary. These five phases are: the awareness phase, the interest phase, the evaluation phase, the trial phase, and the adoption phase.

During the awareness phase, the individual or group is exposed

to a new idea, but does not have complete information about it. The individual next progresses to the interest phase, during which he becomes interested in the innovation and seeks information about it. Next is the evaluation phase. This is when the individual decides whether or not he will try the new idea. Following this decision the individual will try the innovation on a small scale, and finally enter the adoption phase, in which he decides whether to continue or discontinue use of the innovation.

According to Rogers, the individual's perception of the characteristics of the innovation are important throughout these phases. These characteristics include the innovation's perceived relative advantage, its compatibility, its complexity, its divisibility, and its communicability. Relative advantage is the degree to which the innovation is superior to ideas it replaces or to alternative ideas. The greater the perceived advantage, the better the chance of the innovation's adoption. Compatibility is the degree to which the innovation is consistent with the existing values and past experiences of the individual. An idea that is not compatible with the person's value orientation or his past experiences has little chance of being adopted. Complexity is the degree to which an innovation is relatively difficult to understand and use. A complex idea is unlikely to be accepted, but if it can be divided into sub-parts so that only one part at a time need be tried, its chances of acceptance are increased. Furthermore, ideas that can be easily communicated to others are more likely to be accepted.

Lewin (1961), in his analysis of the change processes of individual and group performances, suggests there are three phases:

1) unfreezing, 2) moving to a new level, and 3) freezing. In order to bring about change, the relationships within a system must be unfrozen through some form of external action. The relationships must then be reordered in a different manner and stabilized or refrozen. Lewin's "force field" model of change is based on these three phases of change as well as on the physical model of forces. This physical model of forces is based on the assumption that any body is held at a level of quasi-stationary equilibrium by opposing forces. This body can be moved by manipulating these counter-balancing forces. For instance, if it is assumed that an innovation exists along a continuum from traditional to modern, its acceptance can be increased by manipulating the forces that hold the organization at its present level. This can be done by adding forces, changing the direction of forces, reducing forces, or removing forces. Lewin suggests that the most desirable, from the point of view of relieving tension, is to reduce or remove forces.

Jenkins (1961) has attempted to apply Lewin's "force field" model to the school situation. He describes four general steps that must be taken if the desired changes are to be effected. Specifically, these steps are: 1) analyze the present situation, 2) determine the changes required, 3) make the changes indicated by the analysis of the situation, and 4) stabilize the new situation so that it will be maintained.

Lippitt et al. (1958) have further developed Lewin's three phases to five. The additional two phases outline their concern about the relationship between the change agent and the client. The five phases they identify are: 1) the development of a need for change, which is similar to Lewin's unfreezing; 2) the establishment of a

change relationship; 3) the working toward change, which is comparable to Lewin's second phase of moving. Lippitt et al. have developed three sub-components of this stage, which are: a) the diagnosis of the client system's problem, b) the establishment of the goals and intentions of the actions, and c) the transformation of intentions into action; 4) the generalization and stabilization of change, or Lewin's freezing phase; and finally, 5) the achieving of a terminal relationship.

During each of these five phases, the change agent's task is to help the client system work at the task of changing. Moreover, Lippitt et al. state that

> . . . the relationship between the change agent and the client system, the channel through which all the agent's knowledge and influence must pass, is the most important single aspect of the change process. (Lippitt et al., 1958, 143)

Not unlike Lippitt et al., Havelock (1973) also stresses the importance of the relationship between change agent and client system. In his book A Change Agent's Guide to Innovation in Education, he suggests a sequence of stages through which he recommends change agents should proceed in bringing about change. His orientation in developing these stages was ". . . problem-solving by and for the user through effective use of resources." (Havelock, 1973, 12) It is noted that the stages may not occur in a precise, sequential order, but may occur simultaneously. The final goal of the process is to develop in the client system an ability to solve its own problems effectively and continuously. The steps Havelock describes are: 1) building a relationship, 2) diagnosing the problem, 3) acquiring relevant resources, 4) choosing the solution, 5) gaining acceptance, and 6) stabilizing

the innovation and generating self-renewal.

The first thing a change agent, whether a member of the client system or not, must do is to develop a viable relationship with the client system, or to develop a solid base within it. The establishment of a successful helping relationship is the key to successful change. The key to this relationship is the development of trust, openness, and two-way communication. With the establishment of a secure and reasonably well-delineated helping role, the relationship will continue to build and strengthen as the organization progresses through subsequent stages.

Diagnosis is the systematic attempt to understand the present situation; that is, it is necessary to find out whether the client is aware of his own needs, and whether the client has been able to express his needs as problem statements. Elements of this stage are to identify, as accurately as possible, the problems and the opportunities; that is, identify the areas of greatest potential for change, and to view the client as a system. When diagnosis is complete, the original need--the client's feeling of pain--has been transformed into a defined problem. The keys to diagnosis are that client and agent believe that something is wrong with the present practices and both are ready to work for something better.

Once a problem has been well defined, the client system has to identify and obtain the necessary resources relevant to solutions. This stage focuses on developing an understanding of what has occurred, what is available, and what is potentially relevant and useful as a prerequisite to making decisions and choices about changes that should be made. The seven major purposes for resource acquisition are: for

diagnosis, for awareness, for evaluation-before-trial, for trial, for evaluation-after-trial, for installation, and for maintenance. The key to resource acquisition is to "home in" on relevant information.

With the necessary relevant information, the client is able to derive implications, generate a range of alternatives, test these alternatives, and finally select a potential solution. It is suggested that alternatives be tested with respect to their feasibility; that is, their potential benefit, practicality, and diffusibility. When selecting a potential solution, it is necessary to adapt or shape the chosen alternative so that it meets the specific needs and circumstances of the client. The key to this stage is the proper utilization of the acquired resource data.

After a solution has been developed, it is necessary to create an awareness, develop an interest, evaluate, try out, and finally adopt the innovation. In other words, the widest possible number of members of the client system must develop an awareness of the innovation and finally adopt it. It is necessary to utilize as many communication channels--both informal and formal--as possible, and to make maximum use of natural leadership. The key to this stage is to have a flexible strategy for gaining acceptance.

There are three aspects to stabilizing the innovation and generating self-renewal. First, the client system must internalize the new idea. This means he must develop an internal capability to continue use of the innovation. Second, the client should learn to be a change agent himself; that is, to solve other problems in a similar manner. Third, as this capacity for self-renewal develops, the change

agent is allowed to terminate gradually the relationship with the client.

With respect to cultural change, Gallaher (1969) suggests that the change process is comprised of innovation, dissemination, and integration. Innovation is described as the process whereby a new element of culture, or combination of elements, is made available to the system. Dissemination refers to the sharing of the innovation; and integration is the process wherein the innovation becomes mutually adjusted to the various elements in the system.

Berman and McLaughlin (1976) have utilized an approach similar to Gallaher's in describing the phases of the change process evident in education. They view the innovative process as consisting of three phases; namely, initiation, implementation, and incorporation. They report that there are four factors that interact to spur the initiation of change. These are the presence of a good idea, the availability of federal funds, the needs of the local area, and the incentive of individual actors. It is also suggested that initiation of change in education takes two forms; that of opportunism and that of problem-solving. Projects generated essentially from opportunism are usually a response to available funds and are characterized by a lack of interest and commitment on the part of local participants. The problem-solving motive for projects emerges primarily in response to locally identified needs and is associated with a strong commitment to address those needs.

Implementation was considered as ". . . an organizational process that implied interactions between the project and its setting . . . ." (Berman and McLaughlin, 1976, 352) Four types of interaction are identified. They are: 1) mutual adaptation; that is, no adaptation

on the part of either the innovation or the setting, 2) cooptation; that is, adaptation by the project, but none by the project participants, and 3) technological learning; that is, some behavior, activities, and practices of staff change as a result of the innovation, even though the innovation would not be modified. It is further pointed out that the type of implementation depends on the motivations and circumstances involved in the innovation's initiation, the substance and scope of the proposed change, and the implementation strategy.

Incorporation, which is identical to the adoption stage outlined by Rogers (1962), refers to which components of the innovation, if any, should be continued. They suggest that there are four general concerns that are weighed in reaching decisions about continuation. They are the innovation's success during implementation, the importance of the educational needs served by the innovation, the resources that are required by the innovation, and finally, the organizational-political forces inhibiting or promoting the innovation.

Mann (1976) further develops these phases identified by Berman and McLaughlin. He breaks down the implementation and incorporation phases into four distinct phases. First, the adoption phase is that in which the school affects the innovation. Second, near term behavioral change is the phase wherein the innovation affects the school. Third, the continuation phase is the one in which decisions are made as to which characteristics of the innovation will be continued. Finally, the dissemination-diffusion phase is that in which the innovation is disseminated to other schools and school districts. After reviewing many educational innovations, Mann suggests that a lack of funds sufficient to effect anything other than marginal change

is a common lament among innovators. More important, he argues that site characteristics are extraordinarily powerful in influencing the change process, and that innovation attempts undergo mutual adaptation. He states, "In a sense, mutual adaptation represents the price charged by the site for accepting any of the project's means or goals." (Mann, 1976, 322)

MacKenzie (1964) has identified the various phases in the process of curricular change, but does suggest that these phases may be common to other areas of educational change. The phases he identifies are: 1) criticism, 2) proposal of changes, 3) development and clarification of proposals for action, 4) evaluation, review and reformation of proposals, 5) comparison of proposals, 6) action on proposals, and finally, 7) implementation of an action decision.

According to Abbott (1975), the change process consists of three phases; namely, the awareness phase, the search phase, and the implementation phase. The awareness of the need for innovation occurs when practices and procedures that have been considered to be satisfactory are no longer considered so. He suggests that consideration is given in terms of a satisfaction-dissatisfaction balance and that the amount of search decreases as satisfaction increases. The dissatisfaction with existing practices will occur when there exists a perceived disparity between performance and aspirations. The search phase includes activities through which new ideas are identified and proposed as possible solutions to the problems that gave rise to the initial dissatisfactions. Proposals that are perceived by members of the organization as being threatening to their status will tend to be rejected as possible solutions. Once an alternative is selected for

implementation, the organization's energies will be devoted to implementing the agreed-upon change. In general, there will be a positive relationship between the degree of member participation in searching for and preparing courses of action and the adoption of innovations.

Bushnell (1971) utilizes a systems approach in viewing planned change within the context of school renewal. He suggests that the essential steps in systems analysis in education are: diagnosing the problem, searching for alternative solutions, testing these solutions, implementing the alternatives selected, and providing for subsequent evaluation and feedback. Within this construct of systems analysis, he develops six stages for planned change. First is diagnosing of the problem. This stage begins with the recognition that the system is malfunctioning. At this time it is necessary to make a systematic appraisal of needs, which will involve all those who are served by the institution. Bushnell suggests that a common dysfunction at this stage is the administration's accepting suggested solutions without really probing the underlying causes of the problem. Second is the formulation of objectives. Before any alternative solutions can be contemplated, an understanding of what must be achieved is necessary. Objectives should be stated in operational terms, be internally consistent, be what the organization is trying to accomplish, and be as comprehensive as possible. Third is the identification of constraints and needed resources. Before progressing with any change effort, it is necessary to be fully aware of the past history and traditions surrounding established practices, and to possess a detailed knowledge of the

resources needed to successfully implement a new program. Fourth is the selection of potential solutions. This stage involves the retrieval and evaluation of alternative procedures for solving the identified problems. Two important aspects of this stage are an awareness of potential solutions through the systematic review of information sources, and the choice of the one solution that best fits the identified problem. Fifth is the evaluation of alternatives. Criteria that Bushnell suggests for evaluating alternatives are their feasibility, their workability, and their effectiveness. Sixth, the final stage, is the implementing of the selected alternative. This step involves the implementing of the strategy and the gaining of acceptance for it in the system.

The phases of planned change which have been identified in this section are summarized in Table 1.

Approaches to Describing Planned Change

Organizational change has been studied at various levels. Lippitt et al. (1958, 6-9) have identified four levels of change, each of which is classified as a system. The personality system deals with individuals; the group system is comprised of committees, staffs, work groups, and many other types of small social units; the organization is seen as a system; likewise the community is seen as a system. Rogers (1971, 10) has condensed the levels identified by Lippitt et al. into two levels. First is the individual level; that is, the individual is the adopter or rejector of the innovation. Second, change also occurs at the social system level. This review will concentrate on three levels or approaches to describing planned organizational change:

Table 1 Identified Phases of Planned Change

Year	Writer	Phases
1958	Lippitt	Development of a need for change Establishment of a change relationship Working toward change
1961	Lewin	Unfreezing Moving to a new level Freezing
1961	Jenkins	Analyze present situation Determine changes required Make changes Stabilize new situation
1962	Rogers	Awareness Interest Evaluation Trial Adoption
1964	MacKenzie	Criticism Proposal of changes Development and clarification of proposals for action Evaluation Action on proposals Implementation of an action decision
1969	Gallaher	Innovation Dissemination Integration
1971	Bushnell	Diagnose the problem Search for alternative solutions Test these solutions Implement selected solution Evaluation and feedback
1973	Havelock	Build a relationship Diagnose the problem Acquire relevant resources Choose the solution Gain acceptance Stabilize innovation and generate self-renewal

Table 1 (Cont'd)

Year	Writer	Phases
1975	Abbott	Awareness Search Implementation
1976	Berman and McLaughlin	Initiation Implementation Incorporation
1976	Mann	Adoption Near term behavioral change Continuation Dissemination-diffusion

1) the individual approach, 2) the small group approach, and 3) the systems approach.

The Individual and Small Group Approach

This approach assumes that organizational change can be brought about by changing individual organizational members or small groups within the organization. Its foundations are in psychological and social-psychological research, and it draws heavily from studies of innovation in agriculture, rural sociology, and medicine (Baldridge and Deal, 1975, 25). Attitudes toward innovation are seen as flowing largely from unique personal characteristics and personality traits, but also as being heavily influenced by the values of an individual's peer group (Havelock, 1971, 4:36-37). Rogers (1962, 307) has identified the factors that are present before the introduction of an innovation as "antecedents". He views these antecedents as two-dimensional. One dimension is the individual's own identity; that is, his own feeling of security, his values, his social status and so on. The second dimension is the person's perception of the situation; this would include his own and his group's norms pertaining to innovation, and his perceptions of the characteristics of the groups of which he is a member. It is suggested that these individual attitudes need to be changed, though in conjunction with changes in organizational structure, in order for successful change to occur. If organizational structures and relationships are not altered, the rehabilitated individual may find himself outside of the organization because he has been rehabilitated (Baldridge and Deal, 1975, 16).

In his book Diffusion of Innovations, Rogers (1962) has

developed a categorization scheme outlining individuals' personal characteristics based on the rate at which they adopt innovation. The categories he has developed are: the innovators, the early adopters, the early majority, the late majority, and the laggards. For example, he reports that innovators constitute approximately two and one half per cent of any population and that they are young, from wealthy backgrounds, cosmopolitan in outlook, opinion leaders, and divergent thinkers. Moreover, authority figures within the organization appear to be crucial in introducing change, especially structural change (Miles, 1964, 641). Miles further reports that group support of individual innovators is not important, but what is important is the makeup of the group. Schein (1970) suggests that innovations are found more frequently in groups that favor change, provide a supportive, trusting interpersonal atmosphere, and tolerate diversity. This seems to point out that change processes should be concerned with altering both the forces within the individual and the forces in the organization and group situation surrounding the individual.

Katz and Kahn (1966, 392-432) have outlined eight methods that can be used to bring about individual or small group change. Many of the methods are based on psychotherapy. The methods outlined are: direct use of information, skills training, counselling and therapy, peer groups influence, sensitivity training, group therapy within organizations, feedback on organizational functioning, and direct structural or systematic alterations. Each method is aimed at one of several specific targets, which include: the individual personality, the interpersonal relationships between members of peer groups, the norms of peer groups, the interpersonal relationships between members

of an organizational family, the structure of a role, the role relationships of some segments of organizational space, and the structure of the total organization as the target.

Gallaher (1969, 41-44) has enumerated some of the variables that influence an individual's adoption or rejection of an innovation. He suggests that individuals will more readily accept innovations that they understand and perceive as relevant. He also notes that individuals more readily accept new ideas if they have a hand in their planning. Gallaher stresses that authority is a crucial variable and that individuals consider the kind of authority to which innovations are tied. There are also resistances to change that are inherent in one's personality, Watson (1967, 12-18) has identified these as: homeostasis, habit, primacy, selective perception and retention, dependence, illusion of impotence, superego, self-distrust, and insecurity and regression. Homeostasis refers to the stabilizing forces within an individual; habit suggests that an individual will continue to respond in his accustomed way unless the situation changes noticeably; primacy refers to the finding that the way an individual first successfully copes with a situation sets an unusually persistent pattern; selective perception and retention suggests that once an attitude has been established, a person responds within the framework of his established outlook; dependence refers to the people an individual relies on and who have some influence in shaping his behavior; illusion of impotence describes the attitude held by some people that they are helpless victims of circumstances beyond their control; superego is one of the powerful agents serving tradition; self-distrust is those forces condemning and repressing impulses that do not correspond with established norms; and

finally, insecurity and regression is the tendency to seek security in the past.

Katz and Kahn (1966, 390) suggest that individual change has little impact on effecting organizational change. Moreover, they contend that long lasting organizational change can be achieved only through the manipulation of organizational variables such as authority structures, reward systems, technology, and environmental relations. The individual and small groups approach seems to neglect the finding that producing change or implementing innovations in schools involves changing one or more parts of a complex system. It is necessary to note that the individual and small group approach to effecting change is necessary to and does not compete with, but is compatible with and complementary to a systems approach to change (Baldridge and Deal, 1975, 26). Three reasons why an individual or small groups perspective on change has been challenged are:

> First, this perspective seems to have had a major, if not overriding influence on administrative approaches to innovation and change in schools. Second, . . . we are not convinced that changing individuals or the norms of small groups results in systematic change. Third, the individualistic tradition may not offer many fruitful directions for school administrators. (Baldridge and Deal, 1975, 26)

The limitations of the individual and small groups approach in effecting organizational change have influenced the development of a different approach--the systems approach.

The Systems Approach

This approach has its foundation in systems theory and is based on the assumption that the school is a social system. Sergiovanni and Carver (1973) describe a social system as two or more persons interacting

with the purpose of achieving agreed upon goals. When applying this description to a school district situation, they state that ". . . all members of a school organization are working to achieve the goals of the school district." (Sergiovanni and Carver, 1973, 177) They further develop the characteristics of a social system--a school--as follows: 1) it consists of individuals, 2) there is interaction between and among individuals, and 3) interaction is not randomly directed, but is directed at the achievement of goals.

Though there are two types of social systems, open and closed, schools are commonly classified as open systems (Owens, 1970, 52). Miles has defined an open system as:

> A bounded collection of interdependent parts, devoted to the accomplishment of some goal, with the parts maintained in a steady state in relation to each other and the environment by means of 1) the standard modes of operation and 2) feedback from the environment about the consequences of systems actions. (Miles, 1964, 13)

Abbott (1975, 176) views the school as an open system because it is in a continuous series of transactions with its supporting environment. He further suggests that all social systems can be viewed as subsystems of some broader suprasystem, and that in order for the school to perform its functions and maintain itself within its environment, it receives inputs from the environment in the form of personnel and material resources, it utilizes these inputs as sources of energy, and from this utilization process produces outputs in the form of certain types of trained capacities in its clients.

According to Katz and Kahn (1966, 39-48), organizations are comprised of five different subsystems, each with a set of specialized functions. Moreover, these subsystems are bound together by a set of

relationships. The function of the production subsystem is to perform the goal-directed tasks of the organization. The maintenance subsystem's function is to maintain the system in a steady state; that is, it endeavors to mediate between the task demands of the organization and the human needs of its members. The supportive subsystem is responsible for obtaining the necessary resource inputs from the system's environment and for obtaining the necessary social support and legitimization. The adaptive subsystem deals with organizational change. Specifically, it is concerned with the research, the planning, and the development activities necessary to bring about modifications in the organization. The management subsystem engages in the organized activities for controlling, coordinating, and directing the many subsystems of the organization.

Ingram (1973) suggests that during times of rapid change, the adaptive subsystem and the management subsystem take on key roles. The functioning of the adaptive subsystem creates many anticipated and unanticipated consequences. These consequences often strain relationships within the organization and between the organization and the environment. The management subsystem's efforts are focused on relieving these strains so that the organization can operate effectively and efficiently.

Not only are these five subsystems helpful in understanding and planning for change, but so are the characteristics of an open system. Griffiths outlines these characteristics as follows:

1. Open systems tend to maintain themselves in steady states.
2. Open systems are self-regulating.
3. Open systems display equifinality.

4. Open systems maintain their steady states, in part, through the dynamic interplay of subsystems operating as functional processes.
5. Open systems maintain their steady states, in part, through feedback processes. (Griffiths, 1964, 429)

Each of these characteristics of an open system does have implications for the change process. For instance, Griffiths (1964, 431) suggests three reasons why change occurs infrequently in organizations. First, organizations maintain themselves in steady states. Second, change calls for the establishment of new relationships among components of the system. Third, the organization is established by society or sanctioned to accommodate rather specific purposes; thus, it exists in a steady state.

Schools generally become aware of innovative practices and of the need to adopt these practices largely as a result of external pressure. Owens states that "significant change in . . . schools . . . has seldom occurred as a result of the initiative of public school educators." (Owens, 1970, 149) Katz and Kahn (1966, 446-448) found that major changes in education can be attributed to both changing inputs from the environment and internal system strain and imbalance. Changing inputs may be in the form of changes in information or changes in energic input. Internal strain and imbalance may take two forms: 1) horizontal strain; that is, competition between different functional subsystems, and 2) vertical strain; that is, conflict between various levels in the hierarchy of power, privilege, and reward. However, according to Griffiths (1964, 435), the more functional the interaction between subsystems, the less change there will be in the organization. This leads to the basic assumption underlying the

the systems approach to organizational change--change engages all the subsystems that together comprise the complex educational organization. Moreover, each subsystem may be viewed as an impetus for change or as the unit that is being changed; and any organizational change is likely to involve more than one subsystem (Baldridge and Deal, 1975, 10-14).

Before any innovation can be implemented, it must be developed. According to Miles (1964, 635-639), there are five properties--cost, technological factors, associated materials, implementation supports, and innovation-system congruence--of the innovation which affect its adoption. The more costly, in terms of money, time, and energy, an innovation is, the more slowly it will be adopted. However, if the innovation is divisible, this factor of cost may be less formidable. Miles also suggests that technological innovations are easily adopted and rejected. Factors influencing their adoption are feasibility, ease of availability when desired, and convenience of use. Innovations that have well designed and comprehensive associated materials will also be more readily adopted. Miles further suggests that an innovation that is difficult to use or implement will be adopted more readily if it has built-in supports. Furthermore, if the innovation is incongruent with the potential accepting system, its adoption will be retarded. Specifically, if the innovation threatens existing practices it is less likely to be adopted; and if the target system perceives the innovation as not much different from what is presently practiced, the adoption of the innovation is retarded.

Though organizations rarely attain a perfect state of equilibrium, the numerous writers (Miles, 1964; Katz and Kahn, 1966; and Jenkins, 1949) suggest that what is attained is a "dynamic equilibrium"

wherein major changes appear to be the exception rather than the rule. This dynamic equilibrium is mainly attributed to the dynamic nature of the environment in which organizations exist. Moreover, Mort and Cornell (1949) report that changes in education proceed at a slow pace, with the complete diffusion of a successful innovation taking approximately fifty years. Mort also reports that the average school lags twenty-five years behind the best practice and that typically a long time elapses before the insight into a need is responded to by the development of a new idea that can be successfully adopted. Griffiths states that ". . . systems respond to continuously increasing stress first by a lag in response, then by an over-compensatory response. . . ." (Griffiths, 1964, 433) More recently, Gotkin and Goldstein (1964) report that diffusion rates in education have shortened since the time of Mort's studies, but that it is still a slow process. Griffiths (1964, 434) suggests that the degree and duration of change seems to be directly proportional to the intensity of the pressure from the supra-system.

When agriculture is compared with the public schools in terms of the speed with which new knowledge and techniques are put into widespread use, it is seen to adopt innovations with far less lag than do public schools (Owens, 1970, 145). It is important to note that in agriculture the adopter of change is usually an individual--the farmer; however, in education the adopter is an organization--the school. Carlson (1965, 4-7) has elaborated on three reasons why change in education is slow. First, there is the absence of a change agent. He suggests that education should have an institutionalized change agent position similar to that of the county extension agent found in

agriculture. Second, there is a weak knowledge base upon which educational innovations are developed. Carlson reports that it is rare that educational innovations are based on or substantiated by solid research. Third, there is the domestication of public schools to consider. As a domestic service organization, the school cannot select its clients, nor do the clients have a significant choice in the services the school will offer. Moreover, schools are not compelled to attend to all of the ordinary needs of an organization, since their existence is guaranteed. Consequently, these characteristics restrict both the need for change and the interest in change in schools. Owens (1970, 146-147) further suggests that there is little incentive for schools to adopt new ways; that is, there is virtually no profit from being an innovator, and although it is easy to ascertain how much a new educational practice will cost, it is difficult to assess the extent of the results.

Gross et al. (1971, 23) report that historical and unplanned forces play an important part in setting the stage for and giving impetus to planned change. They also report that a past history or prevailing climate of change may contribute to future successful change. Miles (1964, 11-12) also suggests that planned change is deeply affected by the state of the system in which it takes place. He further suggests that to facilitate change, a primary target should be the improvement of the organization's health; that is, the school system's ability to function effectively and to develop and grow into a more fully functioning system. Miles (1969, 22-26) goes on to suggest that there are certain properties of educational systems that predispose them to ill health, thus retarding their development and growth and, more important,

their innovativeness. The properties he describes are: goal ambiguity, input variability, role performance invisibility, low interdependence, lay-professional control problems, and low technological investment. There are various methods of intervening in the system to initiate internal change processes and improve organizational health (Miles, 1969, 28-31). They are: team training, survey feedback, role workshops, target setting and supportive activities, organizational diagnosis and problem-solving, and organizational experiment. Underlying all these approaches are certain similarities. All the approaches utilize self-study, they have a relational emphasis, they cause an increase in data flow, norms are the target of change, they utilize a temporary system approach, and they include the presence of semi-detached consultants.

Baldridge (1975, 172-173) after reviewing past studies of innovation attempts, suggests that there are numerous factors which affect the adoption of an innovation. He refers to the size of the organization as a factor in that persons within the organization can generate a "demand structure" to facilitate innovation. An organization also needs enough problem-solving capacity and enough specialized experts to promote innovation. Furthermore, innovations must be structurally, politically, and financially supported within the organization if they are to be successful. Finally, environmental variability is a critical factor; that is, the target organization must make itself vulnerable by opening channels of communication and influence to its environment. Other studies have found that school districts more likely to adopt innovations are those that are wealthy, are large

(Havelock, 1973), and have change-oriented superintendents and principals (Carlson, 1965).

According to Buchanan (1967, 18-22), resistance to innovation in a social system takes on a variety of forms. First, members of the organization conform to norms. These norms make it possible for members of the organization to work together, and because they are shared by many members, they are difficult to change. The second form of resistance--systematic and cultural coherence--has its base in the Gestalt principle, which suggests that components take on characteristics because of their relationships within the whole. This implies that it is difficult to change one component without affecting others; moreover, innovation may help one component of the school or school system, yet hinder or cause serious damage to another component. The most obvious source of resistance is vested interests. Innovations may be perceived by individuals, groups, and organizations as a threat to their economic status or prestige. Fourth, anthropologists have observed that within any culture there are some activities that are easily changed and others that are highly resistant to change. For example, technology is receptive to new ideas, whereas great resistance is encountered when alteration of morals or ethics is attempted. Finally, there is the rejection of outsiders, especially significant when one considers that the major impetus for change comes from outside the organization (Griffiths, 1964, 432). A major problem in introducing change is to secure enough local participation so that the change attempt will not be as vulnerable as a contact change. With respect to the organization's structure, Griffiths (1964, 434) suggests that the

more hierarchial the structure of the organization, the less is the possibility of change, and that when change in the organization does occur, it will tend to occur from the top down, not from the bottom up.

Gross et al. (1971, 25-26), in their review of literature on planned organizational change, report that there are numerous writers who stress that participation of subordinates is important because:

> 1) participation leads to higher staff morale, and high staff morale is necessary for successful implementation. . .; 2) participation leads to greater commitment, and a high degree of commitment is required for affecting change. . .; 3) participation leads to greater clarity about innovation, and clarity is necessary for implementation . . .; 4) . . . participation will reduce initial resistance and thereby facilitate successful implementation . . .; and 5) subordinates will tend to resist any innovation that they are expected to implement if it is initiated solely by their superordinates. (Gross et al., 1971, 26)

Miles (1964, 642-643) suggests that new structures are necessary in dealing with innovation. The characteristics of these new structures are that they by-pass vested interests, provide protection for the development and pilot testing of innovations, aid the group in focusing on the work at hand, and provide isolation that will free the group working on innovation from the norms of the target system. Miles further suggests that temporary systems have all the previously mentioned characteristics plus the additional advantage of not having permanent status to threaten the existing target system. Additional characteristics of temporary systems that facilitate innovation are that they:

> . . . increase creativity, involvement, and work level because of the time limitation; enable easier recruitment of appropriate persons; have a minimum of bureaucratic restrictions, and minimal managerial requirements; deal with special-purpose short-run problems expeditiously; cause pronounced attitude, relationship, and action changes on the part of their members; and provide increased social validation for particular innovations. (Miles, 1964, 643)

Miles (1964, 40-43) best summarizes the areas that must be dealt with in the study of planned change in education. He develops, for the study of educational innovation, an agenda that comprises seven areas: 1) the special characteristics of educational systems, 2) the underlying characteristics of the innovation, 3) the prior states of the system, 4) the process during change, 5) the characteristics of the innovative person or group, 6) the fate of innovations; that is what determines their fate, and 7) reasons for changes in innovation rates.

Strategies for Implementing Planned Change

A review of literature on planned change is not complete without a section on strategies that can be utilized to bring about the adoption of an innovation. Of what importance is strategy? Havelock suggests:

> 'Strategy' is a key aspect of this new concept of innovation because it is now becoming recognized that change will only lead to real progress if it is brought about in an orderly sequence of goal-setting, planning, and systematic execution. (Havelock, 1973, 153)

Various writers have elaborated on the underlying characteristics of change strategies and the considerations that must be made when choosing a strategy. Chin and Benne (1969, 33) suggest that all strategies utilize the application of knowledge as an instrument for modifying patterns and institutions of practice. This knowledge may take the form of either "thing technology" or "people technology". Thing technology refers to knowledge of the non-human environment, such as technologies based upon new knowledge of electronics, which produce new methods of communication. People technology is based upon behavioral

knowledge, used for dealing effectively with the human aspects of deliberate change. Knowledge about participative learning and about attitude changes may be classified as people technology.

According to Miles (1964, 648-649), there are certain characteristics of change strategy that make for effective change. First, comprehensive attention must be given to all stages of the adoption process. Second, there must be creation of new structures, especially by systems outside the client system. Third, there must be a congruence with prevalent ideology in the client system, such as beliefs about the importance of autonomy. Fourth, there must be reduction of pressures on relevant decision-makers, and finally, there must be the use of coalitions or linkage between existing structures and new structures. More important, Miles states:

> . . . it seems that the most theoretically powerful strategies are likely to be those designed to produce "meta-changes"--second-order changes that will lead to further changes. (Miles, 1964, 648)

Moreover, Baldridge and Deal (1975, 14) suggest that the strategy utilized should reflect what is changing and what is being changed.

Havelock (1973) outlines seven general considerations that should be a part of any strategy-building. They are:

1. The change agent should evaluate his own style and skills. . . .
2. The change agent should consider the type of relationship which he has with his client system. . . .
3. The special characteristics of the client system always have to be weighed carefully in choosing a strategy. . . .
4. The characteristics of the innovation itself also should be analyzed carefully on a number of dimensions. . . .
5. Similar questions should be asked of the medium. . . .

6. A change strategy should be adapted to the specific situational factors of time, place, and circumstances. . . .

7. The change agent should make a thorough accounting of resources to which he and his client have access, internal and external, human, material, and informational. . . . (Havelock, 1973, 153-154)

According to Bushnell (1971, 15), a change strategy requires: 1) the involvement of those likely to be affected by the innovation and a sharing of responsibility for its implementation, 2) a clear and precise understanding of the participant's role, 3) the building of a climate for change, 4) trained staff, 5) the necessary resources and materials, 6) objectives and procedures, 7) a well developed plan for monitoring the innovation's progress, 8) feedback, and finally 9) modification of the adopted procedure.

There is a considerable bulk of literature dealing explicitly with strategies of innovation in education. Havelock (1970, Appendix A, 3-10) has categorized some forty-four change strategies employed by experienced change agents. Leavitt (1970) suggests there are three general strategies of organizational change--structure, technology, and people. Structural approaches introduce change through new, formal guidelines and procedures, such as the organizational chart, budget methods, and rules and regulations. Technological approaches emphasize rearrangements in work flow, as achieved through new physical layouts, work methods, job descriptions and work standards. People approaches stress alterations in attitudes, motivation, and behavioral skill, which are accomplished through such techniques as new training programs, selection procedures, and performance appraisal schemes.

Chin and Benne (1969) have classified change strategies as empirical-rational, normative-reeducative, and power-coercive. Of

fundamental importance to all of these strategies is the availability, application, and utilization of relevant knowledge about things and people.

The empirical-rational approach is based on the assumptions that man is rational, with this rationality being accepted and understood by all men; and that once exposed to a change that can be rationally justified and that will serve the self-interests of an individual or group, that individual or group will adopt the proposed change. Chin and Benne have enumerated various strategies within this orientation. First, there is basic research and dissemination of knowledge. This strategy has been particularly effective in the diffusion of technological innovations. The strategy depends on general education to diffuse the results of research to the client. Second, there is personnel selection and replacement. These strategies are employed when it is necessary to place the right person in the right position if knowledge is to be optimally applied and if rationally based changes are to be diffused. Third, there is the use of systems analysts. This strategy utilizes staff specialists in organizational behavior in order to apply knowledge directly related to "human technology" in effecting planned change. Fourth is the strategy of linkage systems, which bridge the gap between the work of basic and applied researchers and professional practitioners. Fifth is utopian thinking, which involves the development of a potential image of the future that is convincing and rationally persuasive to men in the present. Sixth is clarification of language. Through this approach it is hoped man will be able to clarify his perceptions, communicate more adequately,

and reason more effectively. This enables a realistic common basis for action and changing to be laid.

Normative-reeducative strategies assume that man is inherently active and seeks stimuli and satisfaction of his needs, and that man's intelligence and actions are seen to be derived from influences of the larger society of which he is a member. Moreover, changes involve the man and his environment, with particular reference to the normative structures and orientations that constitute and define his relationship to the environment. There are two sub-groups in this category. First there is the improvement of the problem-solving capabilities of a system; that is, the structures and processes that are developed to deal with a variety of sociotechnical problems. The range of interventions used by outside change agents in implementing this orientation to change are commonly referred to as organizational development techniques. Second is the fostering of personal growth. This strategy views the person as the basic unit of social organizations, and focuses on planned change through the release of human potential by activating his creative responses.

Finally, there is the power-coercive approach to affecting change. Power, not in the sense of influence of one person upon another or of one group upon another, but in the sense of economic and/or political power, can be effectively applied in creating change. Within this category fall strategies of non-violence, which may include the division of the opposition through moral coercion combined with economic constraints, as in the case of Gandhi's refusal to buy salt. It is also possible to use political institutions to achieve change. Specifically, institutions may be empowered to design, introduce, and

enforce changes; however, all that is done is to bring the force of legitimacy behind some envisioned change. Finally, change can be accomplished through the recomposition and manipulation of power elites.

Havelock (1973) has conveniently grouped strategies into three categories, which are problem-solving, social interaction, and research, development, and diffusion.

The primary assumption underlying the problem-solving orientation is that innovation is part of a problem-solving process that goes on in the client system. It is usually viewed as a cycle of activities beginning with a need felt by the client, which is translated into a problem statement and diagnosis. Once the problem statement is formulated, it is necessary to conduct a search for and retrieval of ideas and information. This material can be used in formulating or selecting the innovation. Finally, the innovation must be adopted, tried out, and evaluated with respect to its effectiveness in satisfying the original need.

This problem-solving orientation has given rise to various strategies of change. Havelock (1973) outlines them as:

1. System self-renewal. . . . In essence this strategy proposes that school systems can develop an atmosphere favorable to innovation and an internal problem-solving capacity through collaboration with an inside-outside team which gives training in various 'process' skills. . . .

2. Action Research. In this approach, university social scientists can collaborate with school personnel in diagnosis and evaluation of existing problems, utilizing research methods to collect and systematically analyze data on the system. . . .

3. Collaborative Action Inquiry. This strategy. . . goes well beyond 'action research' in the extent to which it builds a team relationship between outside expert and inside school staff. . . .

4. Human Relations Laboratory . . . These 'laboratory' strategies . . . stress the development of greater openness and interpersonal competence as the prerequisites of both effective problem-solving and meaningful innovation by individuals and systems. . . .

5. Consultation . . . is used as a . . . technique of helping a client system to define its own helping role and to work through its own problems by means of reflection and authentic feedback. . . .

6. Sharing of Practice Innovations . . . (are) elaborate strategies by which teachers can share new classroom teaching practices with each other. . . . (Havelock, 1973, 157-158)

The social interaction orientation views the innovation as something relatively fixed and concrete. It places emphasis on the patterns by which innovations diffuse through a social system. Important to this strategy is the assumption that individuals belong to a network of social relations that play a major role in the adoption of new ideas. This orientation relies heavily on the natural process of diffusion, but Havelock has identified four "quasi-strategies".

1. Natural Diffusion . . . suggests that innovation will diffuse through a natural and inevitable process. . . .

2. Natural Communication Network Utilization. . . . Such a strategy would include identification of opinion leadership and circles of influence within the social system, and channeling of information to such key points. . . .

3. Network Building. . . . These systems use informal contact by agents or salesman, enlisting of natural opinion leaders as "demonstrators", and group meetings of various sorts as integral parts of an innovation diffusion program. . . .

4. Multiple Media Approaches. . . . A successful program would involve the phasing of different media approaches to synchronize with progressive stages of user involvement. . . . (Havelock, 1973, 160)

The research, development, and diffusion orientation is guided by five basic assumptions. It assumes that there is a rational

sequence in the development and application of an innovation. There has to be a division and coordination of labor to parallel this rational sequence of development and application. There is a passive but rational consumer who will adopt the innovation if it is offered to him under certain conditions. Finally, there is a high initial development cost prior to any dissemination activity. Strategies identified within this orientation are:

1. Development of High-Performance Products. Most authors see RD and D as a process whereby ideas and tentative models of innovations can be evaluated and systematically reshaped and packaged in a form that insures benefit to users and eases diffusion and adoption. In this process most of the adoption and translation problems of the user are anticipated and adjusted for. . . .

2. Information System Building . . . (is) the design and creation of information systems which take into account the many known barriers and translation problems that separate researchers and developers from potential users.

3. Engineered Diffusion Projects and Programs . . . (have) certain common elements: e.g. (1) careful advance planning, (2) innovative packaging, (3) careful identification, selection, and preparation of the target audience, (4) multi-media presentations . . ., (5) some sort of active user involvement, (6) systemic follow-up, and (7) experimental evaluation and documentation. . . .

4. Experimental Social Innovation . . . is a method whereby innovative social science projects can be designed as field experiments which include many of laboratory experimentation so as to insure valid and readily interpretable results. . . .

5. Administered and Legislated Change. One presumption . . . in RD and D strategies is that the resulting high-performance product can be reasonably and legitimately diffused through legislative or administrative fiat. . . .

6. Fait Accompli. . . . The change agent may opt for immediate installation without consultation or the building of advance awareness. The presumption . . . is that the actual benefits from use of the innovation is so great and so apparent after trial that the long-term good of the user will be served. . . .

7. "Systems Analysis" Approaches to Innovation . . . begins with the careful construction of an optimum but detailed ideal

> model of the problem area. Comparison of this ideal model with current operational reality highlights various shortcomings and focal points for change efforts. . . . (Havelock, 1973, 162-163)

The three major approaches to change--Leavitt's, Chin and Benne's, and Havelock's--outlined in this review are similar in that they all agree that organizational change may be brought about by a structural approach, a technological approach, and a human approach, though each writer used different terms to denote these approaches. The strategies do differ in their assumptions about the nature of man, the systems in which he participates, and the processes through which changes can be affected.

A Model of a Systems Approach to Problem-Solving

A problem-solving model was selected to be tested in this study. Specifically, Miller's "Model of a Systems Approach to Problem-Solving" was adopted as the model to be tested.

Rationale for Selecting a Problem-Solving Model

It has been pointed out that education has had limited success in adapting to its environment and successfully implementing innovations. Baldridge (1975), after an extensive review of innovative attempts, suggests an approach that would facilitate the successful adaptation of an organization to its environment and increase its effectiveness. He states that what is needed is the ". . . creating of organizations with built-in capacities for assessing their needs and creating viable alternatives." (Baldridge, 1975, 173) In other words it is suggested that organizations should focus attention on their

problem-solving capacity and perhaps create formal structures to facilitate this process if they are to become more effective and better adapt to their rapidly changing environment. Moreover, Baldridge and Deal (1975, 18) suggest that if an innovative attempt is to be successful, it must be effective in solving a diagnosed problem in the organization. It therefore appears that the process of problem-solving may lead to more successful change attempts.

More specifically, Miller's "Model of a Systems Approach to Problem-Solving" was selected on the basis of four criteria: 1) since a school may be viewed as a system it is appropriate to utilize a systems approach when analyzing the process of change, 2) the model was developed with a focus on policy formulation and policy implementation; that is, it is somewhat oriented to deal with the change process, 3) the model makes rather clear and specific demands in terms of ordering events and activities, and 4) it has not, as yet, been adequately tested.

An Outline of Miller's Model

Miller identifies nine stages that are inherent in the problem-solving process. Specifically, they are: 1) Develop an awareness of change and/or a need for change, 2) Establish new and/or redefine existing goals, 3) Identify and define problems and change contexts, 4) Select and analyze a priority problem and its change context, 5) Derive performance requirements for problem resolution, 6) Select and/or generate alternative solution methods and strategies, 7) Test and verify feasibility and practicality of solution methods and strategies, 8) Select and implement priority solution method and

strategy, and 9) Evaluate performance effectiveness of solution method and strategy.

Miller's "Model of a Systems Approach to Problem-Solving" is presented in Figure 1. In discussing this model Miller delineates the following steps:

1. The assessment and justification of needs in terms of validity criteria leads to the structuring of new and/or redefinition of existing goals.

2. The definition of goals stimulates policy formulation and the resulting policy decisions establish performance requirements which are assigned to management.

3. Management must analyze performance requirements in order that it can define a complete array of performance specifications which can be used to explain the performance requirements.

4. The specifications are classified and categorized according to levels of organization and a hierarchy of performance objectives can be defined in measurable terms.

5. Performance objectives are the fundamental basis of plans--each plan outlines a course of action and details appropriate management controls.

6. Plans must be verified in terms of performance context and the action sequence (strategy) which has been developed to accomplish the objective.

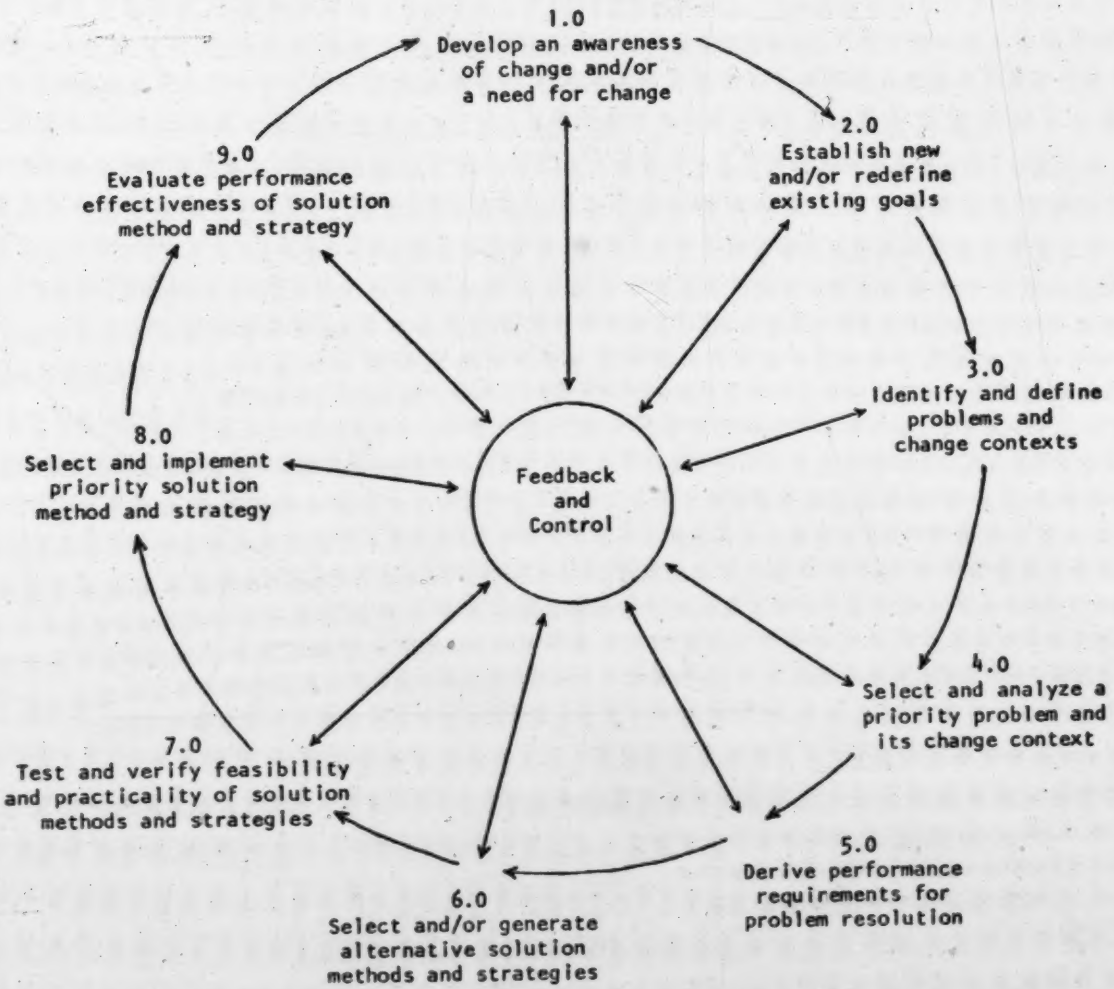
7. A strategy which has been validated through feedback and control is a reliable management procedure for the achievement of objectives.

8. The establishment of a management procedure facilitates the achievement of performance consistency in spite of the internal and external constaints on performance.

9. The resulting performance can be evaluated to determine the effectiveness of performance in terms of previously specified criteria and specifications.

10. The achievement of desired levels of performance proficiency produces change. Such change will produce new needs, which, when justified, will stimulate the formulation of new goals, and the cyclic phenomenon will continue. (Miller, 1969, 36)

Figure 1: A Model of a Systems Approach to Problem-Solving


1.0
Develop an awareness of change and/or a need for change
2.0
Establish new and/or redefine existing goals
3.0
Identify and define problems and change contexts
4.0
Select and analyze a priority problem and its change context
5.0
Derive performance requirements for problem resolution
6.0
Select and/or generate alternative solution methods and strategies
7.0
Test and verify feasibility and practicality of solution methods and strategies
8.0
Select and implement priority solution method and strategy
9.0
Evaluate performance effectiveness of solution method and strategy
Feedback and Control

Source: Miller, 1976, 37.

Summary

This chapter deals with literature pertaining to the process of change. The chapter provides the conceptual framework and the review of related literature for this study. The conceptual framework does not focus on a specific concept with respect to the process of change, but is based upon a multiplicity of ideas and approaches. Specifically, concepts that deal with planned organizational change are presented; that is, change that is a consequence of conscious, deliberate efforts to improve the operation of a system are dealt with.

It is evident that there are no valid, tested, scientific principles of change. However, stimulating and managing change could be less intuitive if knowledge based on social science research and the experience of practicing change agents were applied. In order to understand the change process in educational organizations three things are needed: 1) a comprehensive organizational perspective; that is, an understanding of crucial organizational subsystems involved in innovation, 2) a familiarity of strategies that can be used to cause and support educational innovations, and 3) a familiarity with the dynamics of educational change.

As a process, planned change can be delineated according to a number of phases; however, depending on the writer's orientation to change, the phases vary. In summary form, the writers and the phases of planned change they identify are presented in Table 1. Moreover, there are also various approaches to describing change. Specifically, these are the individual and small group approach and the systems approach. The individual and small group approach is based on the

assumption that organizational change can be brought about by changing individual organizational members or small groups within the organization. The systems approach has its foundation in systems theory and is based on the assumption that the school is a social system; moreover, it is an open social system. It has been suggested that the individual and small group approach to effecting change is necessary and does not compete with, but is compatible with and complementary to a systems approach to change.

Writers have also elaborated on numerous strategies which can be utilized to bring about the adoption of an innovation. These strategies may be classified as either structural strategies, technological strategies, or human strategies. It was suggested that all these strategies utilize the application of knowledge as an instrument for effecting change. However, strategies do differ in their assumptions about the nature of man, the systems in which he participates, and the processes through which change is affected.

A problem-solving model was selected as the model to be tested. Specifically, Miller's "Model of a Systems Approach to Problem-Solving" was adopted to be tested on the basis of four criteria: 1) it is appropriate to utilize a systems approach when analyzing the process of change, 2) the model is somewhat oriented to deal with the change process, 3) the model makes rather clear and specific demands in terms of ordering events and activities, and 4) the model has not, as yet, been adequately tested.

CHAPTER 3

METHODOLOGY

Statement of the Problem

The central problem that the study dealt with was -- To what extent does Miller's "Model of a Systems Approach to Problem-Solving" facilitate an understanding of the processes involved in a planned change; namely, the reorganization of the extra-curricular sports program in an Edmonton School?

More specifically, the applicability of the nine steps in Miller's problem-solving model were tested through the investigation of the following questions:

1. Was there an awareness and need for change evident with respect to the extra-curricular sports program?
2. Were existing goals redefined and/or new goals established by both the physical education department and the school's administration?
3. Were problems inherent in the extra-curricular sports program identified and defined?
4. Were problems categorized according to some predetermined criteria and one problem along with its change context selected and analyzed?
5. Were performance requirements established to enable problem resolution?
6. Were alternative solutions and strategies generated and/or selected?

7. Were solutions and strategies tested to verify feasibility and practicality?

8. Was a priority solution and strategy selected?

9. Was the performance effectiveness of the solution and strategy evaluated throughout the change process?

The Case Study Method

The case study method comprised the central strategy for investigating the problem.

Definition and use of the Case Study Method

The case study method of interpreting social phenomenon is one of the oldest in the social sciences. In defining a case study, Good states that it:

> . . . consists of the data relating to some phase of the life history of the unit or relating to the entire life process, whether the unit is an individual, a family, a social group, an institution, or a community. (Good, 1942, 161)

Gee (1950) reports that it was LePlay who was first to systematically apply the case study method in his study of family budgets in the years between 1829 and 1884. The use of the case study method began even earlier than this. Young states that:

> The earliest application of the case method to social research were the historians' descriptive accounts of peoples and nations followed later by detailed studies of smaller groups, factions and individuals. (Young, 1951, 265)

The decision on what research framework to use rests with the individual researcher. When choosing the research framework, Olsen states that "the more unique an event the greater the demand for a case approach." He further states that "the case method is practically

mandatory for the student interested in process rather than product." (Olsen, 1949, 329-332) In this regard it is apparent that the case study method is exploratory in nature.

The Case Study Method and the Study of Educational Change

With respect to educational change Sarason points out:

> . . . we simply do not have adequate descriptive data on the ways in which change is conceived, formulated, and executed within a school system. Obviously, there are many different ways in which it comes about with differing degrees of success and failure, but it has hardly been studied. (Sarason, 1971, 20)

It seems well established that the case study technique has had little use in attempts to learn more about planned educational change. Maslow suggests that in most innovative projects:

> We wind up with a retrospective story of the program, the faith, the confident expectations, but with inadequate accounts of just what was done, how, and when, and just what happened and didn't happen as a result. (Maslow, 1965, 13)

Havelock and his associates stress the importance, the value, and the need for case studies of innovations. In the introduction to one of their major works they stress the point that causes need to be described thoroughly enough to be useful to future researchers. They also state that they:

> . . . were disappointed to find so few case studies. Of the thousands of dissemination and utilization events that take place every year, it is unsettling to find so few documented in such a way that others could learn from them. This deficiency in the literature was one of the factors that thwarted our efforts to code, analyze, and compare utilization processes across studies and fields. (Havelock et al., 1971, 17)

Advantages of the Case Study Method

In noting the advantages of the case study, Blau states that "case studies . . . have the major advantage of lending themselves to

interlocking various research procedures." He sees that social process can be examined directly in a case study and concepts or exploratory hypotheses can be tested immediately. Blau views the case study method as one ". . . which provides the reliability of different research techniques." (Blau, 1955, 4-6)

Many of the case studies that have been written on planned changes in education have been written with the purpose of advancing the knowledge of organizational change, and to serve a practical function to those charged with the responsibility for managing change in education. (Wilson, 1974, 87) Wilson further suggests a number of carefully written cases could serve as raw data in studies dealing with many cases of educational change. Jones (1969) was able to study planned organizational change by utilizing content analysis on nearly two hundred cases. In fact, Pfiffer states that Jones ". . . has used case studies to provide the raw data for analysis. . . . This aspect alone makes the writing of cases a new and more useful academic pursuit." (Jones, 1969, xix)

Selection of the Case

It was decided that an effective procedure for conducting the investigation would be a case study of an innovation attempt in a single school. This type of research is very demanding of the researcher in terms of time and energy; therefore, it was decided that, if possible, the study should be restricted to a single school within the City of Edmonton.

The researcher decided to limit himself, if possible, to the field of physical education since his background is in this area.

During October of 1976 separate meetings were held with the Supervisors of Physical Education for both the Edmonton Separate School Board and the Edmonton Public School Board. The result of these meetings was a discussion of an innovative attempt at an Edmonton High School and a suggestion to contact the Physical Education Department Head for further information.

Early in November a meeting was held with the Physical Education Department Head of O'Leary School. During this meeting the Department Head outlined the innovation and the researcher outlined his proposed study. The innovation presented an ideal subject for study for the following reasons: 1) the research could be restricted to one medium-sized school of 1600 students, 2) the innovation was apparently new and therefore posed none of the problems that tend to influence borrowed innovations, 3) the school was located within close proximity to the researcher's residence, and 4) prospects of gaining permission to conduct the study seemed favorable.

Data Collection and Analysis

From the first week of November 1976, the researcher visited O'Leary every Friday. During the weekly visits, which continued until mid-January, the researcher utilized three data-gathering techniques.

Data-gathering Techniques

The first technique used to gather data was the informal observation of teachers and students. The chief purpose of this technique was to gain an early impression of the impact of the innovation on the various groups of system members. Second, there were

informal discussions with members of the school's administration, teaching staff, and student body. Whenever the chance arose, the researcher talked with individuals and groups in the school. The purpose of these discussions was, first of all, to establish a degree of rapport with members of the school and secondly, to discover some of the general orientations toward the innovation. The emphasis during this phase of data collection was on gaining as broad a picture of the school and its operation as possible in a short amount of time. Finally, from mid-November to January the researcher was engaged in a document search of the school's Physical Education Department files. Freedom to search any of the files was obtained from the Department Head. The purpose of this technique was to obtain any material that would be of use in writing the case of the innovative attempt.

Beginning in mid-January another data-gathering technique was employed. For three consecutive weeks, the researcher conducted formal interviews with members of the school's administration, teaching staff, and student government. The primary purpose of these formal interviews was to acquire data relevant to the testing of the conceptual model. A secondary purpose was to gather further information pertaining to the writing of the case.

The Interview Schedule. An interview schedule was used because it seemed to offer many of the advantages of both the unstructured interview and the questionnaire. An interview schedule should have sufficient structure to elicit a comparable set of responses from each staff member, and yet be free enough to allow the discussion to follow lines of individual interest. A questionnaire form might have provided

some of the information required. However, this alternative was rejected on the grounds that it would have imposed an undesirable degree of "closure" on the research process.

The researcher devised an interview schedule based on the conceptual model to be tested. The interview schedule is included as Appendix A. The researcher did test the interview schedule and his interviewing technique by conducting pilot interviews with various Professors in the Department of Educational Administration, and various doctoral students in the educational administration program. Modifications were made to both the interview schedule and the interviewer's technique.

Selecting the Interviewees. Due to the large number of staff of O'Leary--seventy-seven teachers and four administrators--and the limited time available to the researcher, only thirty staff members were interviewed. Three staff members were pre-selected to be interviewed. They were the Principal, the Physical Education Department Head, and the staff advisor to the Students' Union. The Principal and Department Head were pre-selected because they were felt to be key members of the innovative attempt, whereas the staff advisor to the Students' Union was selected because it was felt she had considerable insight into the students' perceptions of the change attempt. The other twenty-seven staff members were randomly selected by utilizing the table of random numbers. A staff list excluding the names of the pre-selected staff members and staff members who had joined the O'Leary staff since June 31, 1976, was used in the selection procedures.

Arranging and Conducting Interviews. The staff to be interviewed were contacted by the principal and informed that a

meeting would be held with the researcher, at which time they would obtain further information. During this meeting each person was given a two-page handout. This included a brief outline of the study and a brief outline of the interview schedule. The researcher stressed that this was not an evaluative study and that anonymity was insured. All people voluntarily agreed to be interviewed, with the interview to be recorded on tape. Also during this meeting the staff were asked to complete and return a one-page questionnaire dealing with demographic data.

Interviews were all arranged on an individual basis and were scheduled during the interviewee's spare periods. Interviews began one week after the initial meeting. They were conducted each day over a two and one half week period. Following the completion of staff interviews, it was decided to interview the President of the Students' Union and the Sports Representative to the Students' Union. These two students were interviewed according to the same interview schedule as the staff were. The purpose of interviewing these two students was to determine if it would be worthwhile to gather data with respect to the students' perception of the innovative attempt. These two students were selected because they were elected by the students as representatives of the student body, and were involved in the development of the innovation. The perceptions of these two students did not vary greatly from those communicated by the staff; therefore, the researcher decided not to develop a student questionnaire, or interview other students. The study was thereby limited to the perceptions of the staff who were interviewed.

Analysis of the Data

Data were first analyzed with respect to developing a written case of the innovative attempt and second, it were analyzed with reference to testing Miller's "Model of a Systems Approach to Problem-Solving."

Developing the Written Case. Data that were analyzed to develop the case of the innovative attempt were obtained from three sources. They were informal discussions with members of the school's administration, teaching staff, and student body; a document search of the school's physical education files; and formal interviews with thirty of the school's staff. Before the case could be written the tape recordings of the formal interviews were transcribed by the researcher. Once this was completed, data that were relevant to the writing of the case was grouped under the headings of: 1) Setting, 2) Context of the change, 3) Development of the innovation, 4) Implementation of the innovation, and 5) Evaluation of the innovation. Based on these headings the case was written. After the writing of the case was completed, it was given to the Physical Education Department Head of O'Leary. He was requested to read the case and make note of anything which was considered to be bias or non-factual. Following this, corrections were made in the developed case.

Testing Miller's Model. Data that were used to test Miller's "Model of a Systems Approach to Problem-Solving" was obtained from the formal interviews of thirty staff members of O'Leary. These interviews were recorded and then transcribed by the researcher. Once transcribed, the data were categorized according to the nine sections of the interview schedule. These nine sections parallel the nine

problems enumerated in a previous section of this chapter. The sections of the interview schedule are: 1) Awareness of and/or need for change, 2) Establishment of new and/or redefinition of existing goals, 3) Identification and definition of problems, 4) Selection and analysis of a priority problem, 5) Derivation of performance objectives, 6) Selection and/or generation of alternative solutions, 7) Testing and verification of solutions, 8) Selection and implementation of a solution, and 9) Evaluation of performance effectiveness. In each of these sections responses which were similar were then grouped.

Summary

This study deals with the problem of determining to what extent Miller's "Model of a Systems Approach to Problem-Solving" facilitates an understanding of the process involved in a planned change. The model will be tested by applying it to a specific case study of an innovative attempt in an Edmonton School. The case study method was chosen because of its importance, its need, and its value in the study of educational innovation.

Data used to test Miller's "Model of a Systems Approach to Problem-Solving" were obtained from formal interviews. An interview schedule, developed from the conceptual model to be tested, was used in these interviews. The interviews were recorded, the tapes transcribed, and the data categorized according to the nine problems to be studied. Finally, data within each category were grouped according to similarity of responses.

Data used to develop the case were obtained from: 1) discussions with the school's administration, teaching staff, and student

body, 2) a document search of the school's physical education files, and 3) formal interviews with some of the school's staff. The developed case was then given to the Physical Education Department Head who checked it for accuracy and biases. The case that was developed of the innovative attempt is presented in the next chapter.

CHAPTER 4

THE CASE

Introduction

The case outlined in this chapter is an attempt to present a comprehensive description of an innovative attempt at O'Leary School. This innovative attempt is ongoing; that is, it is in its trial stage and no decision has yet been made as to its permanent adoption or rejection. The case is based on data collected from: 1) discussions with the school's administrative staff, teaching staff, and student body, 2) a document search of the school's physical education files, and 3) formal interviews with some of the school's staff. Much of the information pertaining to the structure of the intramural program was gained from the Intramural Handbook, while discussions and interviews were helpful in outlining the processes involved in developing and implementing the changes.

Individuals' names which appear in the case have been changed from those of the real-life characters.

The Setting

O'Leary High School is a senior composite high school in the Edmonton Separate School District. The school serves the residentially developed northeastern edge of the city. When the School Board zoned this area in 1973, it became known as the Northeast Area School Division, and was inhabited mainly by blue-collar workers. Prior to the

establishment of this school division, O'Leary had been under the direct supervision of the Edmonton Separate School District Superintendent. After zoning, O'Leary came under the direction of an Area Superintendent, who, in turn, was responsible to the District Superintendent.

Historical Development of O'Leary

O'Leary began operation on September 1, 1960, as O'Leary Girls' School and O'Leary Boys' School. Each school had its own principal and six teachers, with the Boys' School occupying the main floor and the Girls' School utilizing the second floor. Only the gymnasium was commonly used. Total enrollment at this time was approximately four hundred students. By 1964 the number of teachers had risen to eighteen on each school's staff. This was also the year a six-room addition was opened. The following year, 1965, the O'Leary Indoor Swimming Pool was completed for use. On September 1, 1966, the two schools were incorporated, with the Girls' School administration unit moving downstairs and integrating with the Boys' School administration. This was also a year of expansion. There were now fifty-four teachers on staff, and physical expansion included the opening of the business education wing, the science wing which included the library, the music area, the merchandising room, and two extra classrooms. The park area adjoining the school was developed to include a track, a football field, two soccer fields, and an indoor skating rink. On September 1, 1969, the team-teaching room, library wing, small gymnasium, and conference room were completed for use. By this time the staff had grown to include seventy-three teachers and four administrative staff. During 1972 the drama room was enlarged, a cafeteria opened, a language laboratory

completed, and two extra classrooms added. As of September 1, 1976, approximately sixteen hundred students were enrolled at O'Leary with a staff of seventy-seven teachers, three vice-principals and a principal.

O'Leary's Physical Education Facilities

Since the school opened in 1960, the physical education facilities has also expanded. By 1976 they included a main gymnasium, a small gymnasium, a team-teaching room, a weight-training room, a quarter-mile oval track, a football field, two soccer fields, and tennis courts.

These facilities are extremely well equipped. Equipment pertaining to a variety of major sports and many minor sports such as golf, lacrosse, football, gymnastics, wrestling, weight lifting, badminton and skin diving are available at O'Leary. O'Leary had received two major pieces of equipment through an Edmonton Parks and Recreation grant that had been made available to all city schools. In 1975, the school received a universal gym for their weight-training room, and in 1976 received two swing-out paddle ball walls for their main gymnasium. O'Leary also has a written agreement with the City Department of Recreation for the use of both the O'Leary Indoor Swimming Pool, which was connected to the school via an underground passageway, and the O'Leary Indoor Arena, which was just behind the school itself. This agreement allowed O'Leary first priority use of both facilities at no cost. The only stipulation was that the facilities had to be booked during the month of June for the following school year.

Context of the Change

The O'Leary Physical Education Department had offered an extra-curricular sports program consisting of both an interschool and an intramural program since the Boys' and Girls' Schools were integrated in 1966. Since their inception, both programs had increased in scope. The interschool program had always been given top priority by the physical education department with respect to finances, facility scheduling, and the time and effort expended by involved staff members.

In order to gain a functional understanding of the changes made, and of the innovation that was implemented at O'Leary during the 1976-77 school term, it is necessary to reflect upon the extra-curricular sports program as it existed prior to the 1976-77 school term.

The 1975-76 Extra-curricular Sports Program

Of the two components of the extra-curricular sports program, consideration will first be given to the interschool sports program and then to the intramural sports program.

The Interschool Sports Program. This sports program was organized for those students with above average athletic ability, and placed a strong emphasis on the competitive aspect of sport. This program provided for teams from various schools to compete against one another, with the ultimate goal being to win the city championship. As previously mentioned, a high priority had been placed on this program and it constituted the bulk of the extra-curricular sports program.

The interschool program had been comprised of two levels; a junior level and a senior level. The junior interschool program had not been as extensive in terms of league play as had been the senior league. The junior teams had functioned as a feeder system for the senior teams and had been largely comprised of grade ten and eleven students. It had been felt that after a year of interschool competition at this level they would have a better chance of "making" the senior team. Coaches for both the junior and senior teams had been either physical education teachers or interested staff members of O'Leary.

Girls' junior teams that had operated during the 1975-76 school term included volleyball, basketball and cheerleaders. Boys' junior teams that had operated at this time were basketball, football, soccer, and volleyball. Senior girls' teams that operated during the 1975-76 school term included flag football, basketball, volleyball, and cheerleaders. Moreover, senior boys' teams that operated were football, basketball, soccer, wrestling and weightlifting. Senior teams on which both boys and girls participated in were track and field and swimming.

It is essential to note that there had been a very small percentage of the total student body participating in the interschool program. This was because the program had not been organized with mass participation as an objective; moreover, many of the athletically-gifted athletes had participated on two or more interschool teams. This had further reduced the number of different students who had participated in this program.

The Intramural Sports Program. This program had been comprised of organized activities and unstructured free play activities. Activities

were operated within the confines of the school and were open to all members of O'Leary. Stress had been placed on participation and enjoyment, regardless of athletic ability. The philosophy of the intramural program, as stated in the intramural handbook, had been:

> Intramurals form the basis of all recreational activities. All students and teachers of O'Leary High should have the opportunity to participate in an activity of their choice. Intramurals, the recreational phase of applied physical education, should provide this opportunity. Intramurals should then be a pleasing combination of the elements of physical education and the modern concept of recreation. (Intramural Handbook, 1975)

Also outlined in this handbook were the purposes and objectives of the intramural program. The purposes had focused on three areas: 1) to provide students with the opportunity to participate in recreational activities that were not highly competitive, 2) to enable students to choose and direct the types of activities they desired, and 3) to provide a flexible intramural program. The objectives of the intramural program had been:

1. To further social contact between student and student, and student and teacher.
2. To develop student individuality and emotional maturity.
3. To accommodate students with activities during their leisure time now and in future years.
4. The development of citizenship through the experiences of individual leadership and group cooperation. (Intramural Handbook, 1975)

After 1971, an Intramural Board had organized, coordinated and operated the intramural program. A physical education teacher had always been director of this board, with other members from the student body. Specifically, there were the elected Sports Convenor from the Students' Union who had acted as Board Chairman, a male and

a female representative from each grade, a representative from the school paper, and a student secretary. All members had been actively involved in the actual operation of the intramural program. For example, the student board members had scheduled the activities, had dispensed the necessary equipment to participants, had acquired referees, and had conducted a large number of other tasks and functions. The Director of Intramurals, a physical education teacher, had been responsible for the program and had been given two periods in every eight periods free to effectively manage the intramural program. Other teachers had been involved in the program as supervisors. All staff were given the opportunity to register voluntarily for supervision, and once registered, they had been expected to respect the times that they were to supervise. Supervision had been rotated among those teachers registered for it, with each supervisor assigned duty approximately two days in four. These teachers had received one extra spare period per day as compensation for the time spent supervising. Mr. Thompson, the Intramural Director, often had to cancel intramurals or supervise them himself because supervisors had failed to appear for their assigned duty. This had been a major problem from the time that staff had been utilized for intramural supervision.

The intramural program had begun during the second week of September and had operated until the middle of May. The program had only functioned during noon hour and had made use of the main gymnasium, the swimming pool, and the track. Free play, an activity where students signed out equipment they wished to utilize and then pursued desired activities with that equipment, had been one of the major activities of the program. Other more structured activities had been

co-ed volleyball, boys' volleyball, girls' volleyball, boys' shinney, girls' shinney, co-ed badminton, swimming, and track and field.

There had been no direct financial support for the intramural program from either the physical education department or the school's administration. A proposal for financial support had been submitted to the Students' Union at the conclusion of each year in order to finance the next year's program. This funding had amounted to $150 per year. This money had been used to purchase awards for the outstanding male and the outstanding female participants, and awards for the championship teams of each intramural activity. These awards had been presented at a special ceremony near the end of June.

Summary. It is evident that in previous years and during the 1975-76 school term there had been an apparent emphasis on the interschool program at O'Leary. This program had been successful in that O'Leary captured many championships both at the junior and senior level. The intramural program had taken a "back seat" to the interschool program in that it had received no financial support from the school, it had little dedicated staff involvement, and it had limited use of physical facilities because their use had been dominated by the interschool program.

Changes were being planned in both the interschool and intramural components of the extra-curricular sports program. These changes were to be implemented in the 1976-77 school term.

The 1976-77 Extra-curricular Sports Program

There had been definite changes in the interschool program and the intramural program of previous years. Attention will first

focus on the interschool program and then on the intramural program offered during the 1976-77 school term.

The Interschool Sports Program. Emphasis on the interschool program by the staff of O'Leary, especially the physical education staff, had been reduced. Specifically: 1) interschool teams no longer had priority use of facilities, that is they had to co-ordinate their use of facilities with the intramural program, 2) all junior interschool teams had been eliminated, 3) all non-viable senior sports had been eliminated; that is, senior sports where no coach could be found and for which there was little student interest were eliminated, 4) money previously made available for junior teams had now been made available for the intramural program, and 5) physical education staff, numerous other school staff, and the administration of the school had shifted their focus of attention and concern from the interschool program to the intramural program.

Those interschool sports that were offered during 1976-77 include only the senior sports teams of girls' basketball, girls' volleyball, boys' football, boys' basketball, boys' wrestling, boys' weightlifting, track and field, and swimming.

The Intramural Sports Program. The intramural program had also undergone extensive changes. In fact, one may consider that an entirely new intramural program had been developed and implemented. This program placed emphasis on the involvement of all school personnel, the enjoyment of participation and the development of physical fitness. This emphasis was reflected by the philosophy and objectives of the new program. The philosophy was:

> We believe that O'Leary must supply a system of organized activities that is structured to meet the physical, emotional and social requirements of the majority of its students and staff. (Intramural Handbook, 1976)

The objectives were:

1. . . . that the students and staff of O'Leary learn to become participants rather than spectators.

2. . . . that each individual must be presented challenges that are equal to his physical and mental capabilities.

3. . . . that the intramural system will give us greater opportunities to correlate the competitive and social values of our students.

4. . . . to improve the total fitness level of the people of O'Leary as well as to relate greater personal interest in self fitness.

5. . . . to give the members of O'Leary a knowledge and experience of activities that they can continue to take part in beyond their high school years. (Intramural Handbook, 1976)

This intramural program also had a new structure. Mr. Dolan, who had been on staff at O'Leary as a physical education teacher for three years, became the new Intramural Director. Mr. Dolan was responsible for the entire program, and he had reserved the right to make all final decisions regarding the program. The previous Intramural Board had been dissolved. A student had still been elected to the Students' Union in the position of Sports Convenor even though there was no role for this person within the new intramural program's structure. In place of the Intramural Board, two separate bodies had been conceived. One body was the intramural staff, which was comprised of the physical education staff. This group of people provided feedback to the Intramural Director on the program, and assisted in solving problems and concerns that were brought to the attention of the Intramural Director. Secondly, a select group of grade twelve students had

been organized into a special Physical Education 30 class for the purpose of operating the intramural program. These students were also the major ruling body in making decisions regarding the program.

The Intramural Director had received four spare periods in every eight periods--an increase of two from that of the previous year--to work on the intramural program. Additional supervisors had been required for the program as organized activities were being offered three times a day--prior to school commencing in the morning, at noon, and after school. The program also utilized more facilities, specifically, the main gymnasium, the small gymnasium, the team-teaching room, the weight-lifting room, the swimming pool, the ice arena, the school's outdoor sporting facilities, and numerous commercial facilities. As a result of this increase in the number and frequency of facilities used and the times the program was offered the number of staff supervisors was increased from the 1975-76 requirement of six to the 1976-77 requirement of twenty-two. Supervisors received one spare period in every eight periods as compensation for their work, but their duty had also increased from that of two days out of four, to that of three days out of four.

The program of activities offered had been greatly expanded and had become more diversified from that of the previous year's program. All activities were now structured; that is, free play activities had been eliminated and each activity operated for a pre-determined time span with a championship team or individual being declared at the conclusion of each activity. Activities operated continuously, with perhaps a one day break between activities. In order to fully appreciate the depth of this new program the following

is a list of activities that were offered:

Singles racquetball, boys, girls	Basketball
Doubles racquetball, boys, girls	Free throw contest
Gymnastics	Basketball; 21 contest
Co-ed football	Continental handball
Flag football	3-legged volleyball
Golf	3-legged basketball
Indoor ball hockey; boys, girls	Tennis
Jogging club	Track and field
Weightlifting club	Skiing
Exercise club	Curling
3-on-3 basketball	Indoor soccer
Swimming	Roller skating
Car rally	Canoe races
Cross-country skiing	Rowboat races
Figure skating	

A house and point system were an integral part of this program. Each student and staff member of O'Leary had been randomly placed into one of four houses: 1) the Red House, 2) the White House, 3) the Blue House or 4) the Yellow House. In order to participate in activities staff and students had to organize and register teams for each activity. The membership of teams was only constant for one activity; that is the membership of teams and number of teams varied for each activity. Students were free to develop teams with students from any house or grade level. The point system was integrated with the house system. Two types of points were awarded. First, there were participation

points. These were points awarded to each individual and to his respective house. Two points were awarded to both the individual and his/her house for each activity they participated in. Second, there were achievement points. This was one point that was awarded to each individual and his representative house for each championship team he/she was a member of. Points were accumulated to derive the Overall Male Participant and the Overall Female Participant. Points were also accumulated to derive the Overall Championship House. Specially designed certificates were presented at the conclusion of each activity to all members of the championship team. At the conclusion of the year, as part of the final school banquet, trophies were presented to the Overall Female Participant, the Overall Male Participant, and the Championship House.

In order to operate this new program additional finances had been required. Funds had become available through two avenues: 1) those funds that had been used to support the junior interschool teams were made available to the intramural program, and 2) the student athletic fee had been increased from two dollars to two dollars and fifty cents with the additional fifty cents per student directed at funding the intramural program. No further funds had been required from the Students' Union to help finance the program.

Summary. It seems evident that emphasis had shifted from the interschool program to the intramural program in an attempt to involve more of the students and staff in enjoyable, fitness-related, carry-over activities. This shift in emphasis resulted in the elimination of all junior interschool teams, the elimination of one senior interschool team, and the development of a highly structured, organized, and

extensive intramural program.

The Extra-curricular Equalization Program

In 1969, the administration of O'Leary developed a type of extra-curricular equalization program for its staff members. This program developed into an integral part of the internal structure of the school and played a major role in the extra-curricular sports program. For this reason it will be briefly outlined.

This extra-curricular equalization program is complex and only the areas of major importance will be discussed. O'Leary operated on a four-day cycle with six periods per day. Each teacher had originally been scheduled to have only one spare period in every eight periods. Staff members could acquire an additional spare period by becoming involved in one of the many extra-curricular activities offered. The administration decided which extra-curricular activities warranted an additional free period for involved staff. A list of extra-curricular activities which staff could select to become involved in was compiled by the administration. It is important to note that not all extra-curricular activities were listed. Only those activities that staff would receive an additional spare period in conpensation for their involvement were listed. This list was presented to the staff at a general meeting sometime during May or June of each year. At this time all staff members were requested to register for involvement in one activity for the following school term. Activities ranged from internal staff substitutions, to various types of supervision. Ever since this program's conception, both the coaching of an interschool team, either junior or senior, and the supervision of intramurals had been offered

as an activity that warranted an additional free period.

Development of the Innovation

With the development of both interschool and intramural sports programs in schools, the relative importance and emphasis each should carry in the education of youth has been the topic of many discussions. As previously mentioned, ever since O'Leary had offered an extra-curricular sports program, consisting of both interschool athletics and intramurals, a strong emphasis had been placed on the interschool program.

Awareness of a Need for Change

Informal discussions focusing on the emphasis placed on inter-school athletics and on the number of students participating in the interschool program had been a common occurrence when staff got together. Discussions on these two areas became more frequent when Mr. Howard became Physical Education Department Head in 1971. Mr. Howard was from a country where all extra-curricular sports were under the umbrella of the intramural program. In this program mass participation, physical fitness, enjoyment, and carry-over activities were stressed. Although no concrete changes were planned, an awareness of deficiencies in the O'Leary extra-curricular program became apparent to those staff members associated with it.

Mr. Howard left O'Leary in 1973 and was replaced by Mr. McCardie. Mr. McCardie believed that both an intramural and an inter-school program were a necessary facet of O'Leary's operations, but he did feel that the intramural program could be improved. The program

was improved somewhat, but no extensive changes were made. In 1975, Mr. McCardie departed from O'Leary in order to take up a position of vice-principal at another school. Mrs. Niven then assumed the post of Physical Education Department Head. Again no major changes were made in the extra-curricular sports program. In the middle of 1975, Mr. Jenkens, who had been a physical education teacher under all three of these department heads, took over from Mrs. Niven. Mr. Jenkens' outgoing personality and genuine interest in students appeared to be transmitted to the rest of the physical education staff. His staff took on a new outlook with respect to the physical education program. They became deeply concerned with the physical fitness of both staff and students, and were continually encouraging everyone to partake in some recreational pursuit.

Contributing Factors. There did not seem to be one major factor, but rather a combination of interrelated factors, that led to the major changes in the intramural and interschool programs. Some of these factors were: 1) an increased societal awareness and concern for physical fitness, 2) a decrease in student interest and participation in the interschool program, 3) general staff concern with regard to the time and energy that involvement in extra-curricular activities demanded of them, 4) an increasing difficulty in acquiring coaches for interschool teams, 5) an increasing number of staff and students arriving at the school at 7:00 a.m. to engage in unstructured physical activity, and 6) the speakers, activities and materials that were presented during Fitness Week at O'Leary. This combination of factors led the physical education staff and other interested staff to informally discuss and question the priority and emphasis placed on interschool

athletics. It was not uncommon for discussions on this subject to take place in the staff room and at informal staff gatherings. Miss Newman, a physical education teacher, and Mr. Corwin, a vice-principal of O'Leary--but a past physical education teacher--were both deeply concerned with the then operating extra-curricular program. They both agreed that interschool athletics should be eliminated and an all-encompassing intramural program that stressed participation regardless of ability, enjoyment, physical fitness, and carry-over activities should be developed. Those staff, including the principal, that were associated with or interested in the extra-curricular program were well aware of the informal evaluation of the extra-curriculum program that was occurring.

Evaluation of the Extra-curricular Sports Program

Due to the many concerns expressed about the extra-curricular program, Mr. Jenkens decided to place the evaluation of the extra-curricular program on the agenda of a physical education department meeting. This meeting was held sometime in February of 1976. At the initial meeting Mr. Jenkens outlined that the purpose of placing this item on their agenda was to enable the physical education staff to improve the extra-curricular program. Two meetings were devoted to this topic. During these meetings the physical education staff discussed the role of intramurals and interschool athletics, what type of students should the extra-curricular program be focused on, the issue of mass participation vs. the development of the elite athlete, and the money, facilities, and time and energy of staff that were being monopolized by a small number of students. The result of these two

meetings was a consensus among the physical education staff that the intramural program should be expanded and reorganized with much more emphasis placed on involving all students and staff in the program.

This concept of expanding and reorganizing the intramural program was not a new one. Mr. Jenkens had informally discussed the idea with Miss Miles, the principal of O'Leary, on numerous occasions since he had become Department Head. Though Mr. Jenkens did receive positive feedback from Miss Miles, who happened to be a past physical education teacher herself, no action was taken.

Development of a Committee

After the physical education staff had reached a consensus that a new intramural program was needed, Mr. Jenkens had a meeting with Miss Miles. The result of this meeting was the decision to take action on this need and strike a committee to further examine the extra-curricular sports program and to develop a new intramural program. There are two distinctly different perceptions held by the two individuals involved in this meeting as to how this decision was reached. Mr. Jenkens states that he presented a brief outline of what the physical education staff had discussed and the conclusion they had arrived at. He then requested permission from Miss Miles to strike a committee and take action on the decision made by the physical education staff. Miss Miles suggests that Mr. Jenkens had discussed the many deficiencies of the extra-curricular sports program and the decision the physical education staff had arrived at with her. She also suggested to Mr. Jenkens that he organize a committee to take action on the decision made by the physical education staff.

Composition of the Committee. During the early part of March 1976, Miss Newman circulated a paper to all staff members requesting their signature if they were interested in becoming involved in developing a new intramural program. Staff that were interested were called to the first meeting which was held in mid-March of 1976. This initial committee of seventeen members was comprised of all the physical education teachers, a number of interschool coaches who were not members of the physical education staff, and a number of staff who were interested in the extra-curricular program including Mr. Corwin who was both a representative of the administration and an interested staff member.

Function and Structure of the Committee. During this initial meeting Mr. Jenkens outlined to the committee members that the physical education staff had agreed to alter the existing extra-curricular program by expanding and reorganizing the intramural program. In other words, to develop an entirely new intramural program where the finances, the facilities, and the time and energy of staff would become focused on the entire student body. Mr. Jenkens also stressed that the committee was struck with the purpose of improving the extra-curricular sports program that was currently in operation. The committee decided to hold meetings once a week, during lunch hour, in the school's conference room. It was suggested by a member of the committee and agreed upon by the remaining committee to invite the Students' Union Sports Convenor to attend all meetings of the committee as an observer both to keep the students informed as to the committee's progress and to act as a student representative.

The committee was never formally structured, with much of its

work being done in an open, informal-discussion type format. There was no committee chairman elected or agendas prepared for meetings. Mr. Jenkens acted as an informal leader, but was not an obvious leader to all members of the committee.

March 1976 to April 1976

During the next few meetings the decision that Mr. Jenkens had presented to the committee was discussed. Again the issues and concerns that the physical education staff had brought up at their department meeting were discussed with all committee members agreeing with the original decision proposed by the physical education staff. Discussion then shifted to focus on the general philosophy of the school and the role that the intramural program and the interschool program played in this philosophy.

A Philosophy and Set of Objectives. The committee acknowledged the need for developing a philosophy and a set of objectives for the intramural program which was consistent with the general philosophy of the school. Though the philosophy and objectives developed by the committee have been outlined in a previous section of this chapter, it is in order to again state the developed philosophy.

> We believe that O'Leary must supply a system of organized activities that is structured to meet the physical, emotional, and social requirements of the majority of its students and staff. (Intramural Handbook, 1976)

Mr. Jenkens, on behalf of the committee, presented the printed philosophy and set of objectives to Miss Miles and the other members of the administrative team. With the help of Mr. Corwin, the printed material was elaborated on and a progress report of the committee's

work also given. The administrative team reacted positively to this presentation and requested Mr. Jenkens to inform the committee to continue its work with this philosophy and set of objectives as guidelines for their future efforts.

Securing an Intramural Director. With the acceptance of the program's philosophies and objectives by the administration, discussion then focused on the position of Intramural Director. All members agreed that the program, once developed, would require a tremendous amount of time and effort on the part of the Intramural Director in order to enhance its success. It was agreed that Mr. Jenkens would approach Miss Miles with the idea of the Intramural Director teaching only four in every eight periods and utilizing the remaining four periods to work on the intramural program. The idea was accepted by Miss Miles. Mr. Jenkens then approached Mr. Thompson with the idea of his remaining as Intramural Director. Mr. Thompson declined this offer. Mr. Dolan, because of his seniority in the physical education staff, was next offered the position of Intramural Director. Mr. Dolan accepted and the news was presented to the committee at its next meeting.

Role of the Interschool Program. During the next few committee meetings held in April, the committee discussed the role of the interschool program. Two guest speakers spoke to the committee during these meetings. A member of Jasper Place High School outlined their intramural program and why they had eliminated junior interschool teams. A university student, who had just completed his student teaching at O'Leary, spoke to the committee outlining the major concepts of intramural programs existing in Japan. As a result of these discussions

and presentations a secondary discussion evolved which dealt with the apparent conflict between the intramural and the interschool program. Some members argued that the two programs were in conflict, while others argued that they were compatible and not in conflict. Discussion then focused on what would be done with the interschool program. The committee could be divided into three groups with respect to dealing with this issue: 1) members who wanted to eliminate the entire interschool program, 2) members who were open to new ideas but believed the interschool program was an important part of the extra-curricular program, and 3) members who were undecided as to what to do with the interschool program.

During the discussion of this issue four alternatives were generated. They were: 1) to eliminate all interschool teams, 2) to eliminate all non-viable interschool teams; that is, all junior and senior teams for which there were no coaches or there was little student interest, 3) to eliminate only the junior interschool teams, and 4) to eliminate all junior interschool teams with the exception of the junior football team. Each of these alternatives was tested against the accepted philosophy and set of objectives that the committee had developed. They were then examined with respect to the finances, facilities, and staff time and energy available both to operate an expanded intramural program and to operate some form of interschool program as represented by each alternative. The result of these examinations and discussions was a decision to offer some form of interschool program though greatly reduced from that presently being offered. Subsequent to this decision the committee invited a

number of students, all of whom were interschool athletes, to the next meeting of the committee. At this meeting they were informed of what the committee had developed thus far and also that the interschool program would be definitely cut back to some extent. The students' reaction was negative to this. Some students even threatened to transfer to another school if interschool teams were eliminated.

Vote on Junior Interschool Teams. Following this meeting with the students, the committee again debated the four alternatives. The committee members agreed to eliminate all non-viable senior interschool teams, but were divided on what was to be done with junior teams. Two positions were evident with respect to junior teams. The first was to eliminate all junior teams, and the second was to eliminate all junior teams with the exception of junior football. It was agreed to vote on the issue of whether or not the junior football team would be eliminated along with the rest of the junior interschool teams. After much discussion by various members of the committee a vote was taken. Before the vote was taken, it was noted that thirteen committee members were present and two were absent. The vote was taken by a show of hands, with one member abstaining from voting. The result was a tie vote. Shortly after the vote the abstaining committee member decided to cast his vote. This resulted in the tie being broken, with a one vote margin in favor of dropping all junior interschool teams including junior football. This decision had a visible effect on those members--all football coaches--who felt that junior football should not be eliminated. These members were noticeably upset with the result of the vote. A time for the next meeting was then agreed upon and the meeting was adjourned.

Summary. To this point in the committee's efforts the following decisions had been made: First, the committee agreed to develop a new and extensive intramural program. Second, the philosophy and set of objectives were formulated for the new program. Third, this philosophy and set of objectives were presented to the administration, who accepted them. Fourth, it was decided to place more emphasis on this program by first eliminating all non-viable senior interschool teams, and second eliminating all junior interschool teams. Finally, Mr. Dolan, a physical education staff member, had volunteered to become the Director of Intramurals for this new program.

May 1976 to June 1976

Subsequent meetings during the months of May and June dealt with establishing a structure for and development of the intramural program. Committee meetings from this point were held twice a week until the end of June. It is important to note that at these meetings following the vote there was a definite change in committee membership. There were no additions to the committee, but some members had dropped out. Those members who did not return to further committee meetings were all from the group who had voted to eliminate junior football.

This action seemed to create an even greater ill-feeling among those members who had voted to retain junior football. This ill-feeling never completely disappeared, but did decrease to an extent as time progressed and the committee engaged in the task of developing the intramural program.

In developing the program the committee first decided to have Mr. Dolan as its formal Chairman since he was to be the Intramural

Director of the new program. Under Mr. Dolan's guidance, during the two final months of the 1975-76 school term, the committee developed the intramural program in four areas. They were: 1) operating times for the program, 2) financial structure for the program, 3) supervision of the program, and 4) activities that would be offered in the program.

The Intramural's Operating Times. The committee first discussed the issue of operating times. One aspect of this discussion was the number of staff and students arriving at 7:00 a.m. every morning to engage in some form of physical activity. The outcome of this discussion was an agreement to operate the program five days a week; in the morning (7:05 to 7:45), at noon (11:05 to 11:45), and after school (3:05 to 3:45). Discussion then shifted to when the program should begin. It was decided that the second week of September was a good target date to strive for.

The Intramural's Financial Structure. Members agreed that the cost of this program would be high. Mr. Corwin assured the committee that the funds that would have been used to finance the junior interschool program would be made available to the intramural program. It was doubted that this alone would provide sufficient funding, especially with the large amount of money that would be required to purchase necessary racquetball equipment. A proposal was made to increase the student athletic fee by fifty cents in order to provide additional funding. The proposal was accepted and Mr. Jenkens presented the proposal to Miss Miles. It was accepted by Miss Miles and was scheduled for the following school term.

Supervision of Intramurals. It was obvious that due to the size of the program, a great number of staff supervisors would be

needed. Specifically, twenty-two supervisors were required. Discussion then focused on the important role that supervisors would play in the success or failure of the program. Mr. Thompson, who was then the Intramural Director, stressed that supervisors must be responsible and must not be allowed to shirk their duties. It was agreed to let Mr. Jenkens approach Miss Miles with the proposal of having twenty-two staff members involved in supervision of the program and of each supervisor receiving one extra free period. This proposal was accepted by Miss Miles, who informed Mr. Jenkens that the staff would be selecting the extra-curricular activities they wished to become involved in the following year at the next staff meeting. Before this staff meeting the committee developed a list of written expectations that stressed the important role of supervisors in the intramural program.

The committee was given permission to briefly outline the intramural program and the role of supervisors in this program before staff were asked to register for extra-curricular activities. Mr. Kemp, a physical education teacher, was the member of the committee who presented this material at the staff meeting. During this presentation the importance of staff involvement in the program was stressed. Attention was drawn to the point that if the staff were enthusiastic and involved in the program, so would the students be. When the list of expectations for supervisors was outlined, it was emphasized that participation in the activity to be supervised was a good method of supervision. Following this presentation the meeting was open to discussion. Very little discussion took place. Miss Miles then

explained the time equalization program and the staff completed the necessary forms. Later in the week these forms were compiled. A total of eighteen staff members had registered for intramural supervision. In order to fulfill the complement of twenty-two supervisors, Miss Miles made a note of staff who had not registered for any extra-curricular duty. She approached them individually, mentioning that there were not enough supervisors for the intramural program and queried them as to whether they would like to help out in that capacity. Once twenty-two supervisors were found the list was passed on to the committee.

Intramural Activities. All members felt that the first activity offered in the program was of great importance. An activity which was novel and would stimulate enthusiasm and interest in the entire student body and staff was the criteria used to select the initial activity. After much discussion, racquetball was selected as the first activity of the program. Brainstorming was utilized to develop a further list of activities.

Once the four aspects of the program had been developed, Mr. Dolan reported back to the committee once a week during the month of June. It was during these last few meetings that the concept of developing a house and point system was suggested by Mr. Dolan. Both of these concepts were approved by the committee and encouragement was given to Mr. Dolan to further develop these ideas. With the help of Mr. Corwin, Mr. Dolan also selected the students who would comprise the Physical Education 30 class which would operate the intramural program.

Summary. During the last week of June the committee held its

last meeting of the 1975-76 school term. By this time the committee had developed, to varying extents, all the major aspects of the program. Supervisors had been secured, finances had been established, times had been scheduled for the program's operation and a list of activities to be offered had been developed. At this last meeting it was agreed that Mr. Dolan would further develop the program during the summer months in order to have it fully operational by the second week of September.

July 1976 to August 1976

By the first of September Mr. Dolan had developed a fully operational intramural program. He had developed a house system, a point system, and a detailed schedule of activities including what activity would be offered, when it would be offered, and for how long it would be offered. He also had developed scoring and attendance forms. The program was fully operational except for one aspect; that of supervision. Mr. Dolan had refrained from organizing a supervision schedule because of staff turnover and because he had not known at which of the three times each supervisor wished to supervise.

September 1976

During the first week of September, Miss Miles replaced those teachers who had registered for supervision the previous school year, but had terminated their stay at O'Leary during the summer with new teachers to O'Leary. Once this had been completed the total number of supervisors was again twenty-two. Mr. Dolan called a meeting of all intramural supervisors at the end of the first week of September. At this meeting the supervisors were again presented with the printed expectations. Supervisors were reminded to contact Mr. Dolan if they

were unable to supervise when scheduled to, so that he could make arrangements for a replacement. Two points were emphasized by Mr. Dolan: 1) the success or failure of this program was to a large extent determined by the supervisors themselves and 2) supervisors should become actively involved in the activity that they were supervising. It was noted that each supervisor would be required to supervise three days in every four. After reviewing the times of day and facilities that required supervision, supervisors selected the time and facility they wished to be scheduled for. With this completed, the intramural program became operational.

During the first week of September Mr. Dolan met with his Physical Education 30 class. This was the pre-selected class of grade twelve students who would actually operate the intramural program. Mr. Dolan outlined the developed program, including the students' duties and responsibilities. The Physical Education 30 class used the first two weeks of September to develop information on the program. This information was displayed throughout the school to inform the students of the intramural program and its operation.

The intramural program began formal operation on Monday of the third week of September with the first activity being singles racquetball.

Implementation of the Innovation

The implementation or diffusion of the program can be categorized into two time periods: 1) diffusion that occurred during the 1975-76 school term and 2) diffusion that occurred since September of 1976. By diffusion, it is meant activities which were directed at creating an

awareness and acceptance of the new intramural program.

Implementation During the 1975-76 School Term

One of the first things the committee did was to inform the students presently attending O'Leary that changes were being planned for next year's extra-curricular program. First, the Students' Union Sports Convenor was asked to be a member of the committee in order to keep the students informed as to the progress of the committee. Second, a number of students were selected and invited to a meeting of the committee. At this meeting they were informed of what the committee had developed and were asked to react to it. There was no formal presentation during the 1975-76 school term of the changes that were to be made in the extra-curricular sports program. Students did learn informally that changes were being planned, but were not aware of the details.

With respect to the feeder schools--those junior high schools whose graduates attend O'Leary--there was a formal presentation made to the grade nine students. During the month of June, members of the Students' Union went to each of the feeder schools. Mr. Dolan had provided them with a brief outline of the program and requested them to pass this information on to the junior high students in their presentation. It is necessary to note that at this time the program had not been fully developed and only a brief outline could be presented by the Students' Union. It was mentioned that O'Leary would no longer offer junior interschool teams, but that there would be an expanded intramural program.

It had previously been mentioned that the staff was formally

presented with the initial framework of the program at a staff meeting in May. Many of the staff were aware, through informal discussions with committee members, that changes were being planned for the extra-curricular program.

Implementation During the 1976-77 School Term

During the first two weeks of September there was a strong effort made both to inform and to create an interest among staff and students about the new program. This was done in numerous ways. First, the Physical Education 30 class produced numerous posters describing the program and emphasizing that it was developed for all students to participate in and enjoy regardless of athletic ability. Second, Mr. Dolan presented, to as many classes as he could during Block one, a slide and tape show depicting some of the activities that would be offered in the new program. He also explained the operation of the program and stressed it was for all students. Third, the school newspaper agreed to support the intramural program by giving it extensive publicity. Fourth, Miss Miles incorporated a section, briefly describing the new intramural program, into the newsletter sent to all parents at the beginning of each year. It had originally been planned to make use of the morning announcements on the school's inter-com system to further advertise the program. This was not possible, however, because the administration had decided to eliminate general announcements for this year because of numerous teacher complaints.

By the end of the second week of September, the student body was generally aware of the new program. Its actual operation began on Monday of the third week of September, with singles racquetball.

Students accepted the new program and very little discussion was heard among students regarding the elimination of junior teams. Grade ten students seemed to be most enthusiastic about the program.

Since the intramural program had begun operation in September there had been two noticeable changes. First, the early morning program was altered from a structured, scheduled activity to an open-time where participants may choose the activity they wish to engage in. This was altered because staff were requesting the opportunity to come in early and engage in activities which they enjoyed. The demand was for both jogging and racquetball. Students also supported this request. Second, some of the supervisors requested of Miss Miles that they be given permission to drop their supervision of the intramural program and engage in another type of extra-curricular activity. This was granted by Miss Miles.

Evaluation of the Innovation

Although evaluation of the program had been discussed in June 1976 by the committee, there had been no plans made to evaluate the program other than taking a look at it near the end of its first year of operation. It is fair to say that everyone in contact with the program had made some type of informal evaluation of it. Mr. Dolan has developed statistics on the program with the help of his Physical Education 30 class. These statistics include: the number of participants that are participating in each time slot, the total number of participants, the total number of different students participating, and a breakdown of the total number of different participants by grade and sex. These statistics have been produced once, and are representative

of the program up to January 3, 1977. The statistics were typed and copies were placed in each staff member's mail box, on the bulletin board, and on the students' intramural bulletin board.

Summary

The case describes an innovative attempt in an Edmonton High School; namely, O'Leary School. The innovative attempt constitutes the reorganization of the extra-curricular sports program at O'Leary. Specifically, this reorganization includes the elimination of all non-viable senior sports teams--one in number--the elimination of all junior sports teams--seven in number--and the development of an extensive intramural program.

A number of interrelated factors which led to this innovative attempt were outlined. These include: 1) an increased societal awareness and concern for physical fitness, 2) a decrease in student interest and participation in the interschool program, 3) general staff concern with regard to the time and energy that involvement in extra-curricular activities demanded of them, 4) an increasing difficulty in acquiring coaches for interschool teams, 5) an increasing number of staff and students arriving at school at 7:00 a.m. to engage in unstructured physical activity, and 6) the speakers, activities, and materials that were presented during Fitness Week at O'Leary.

The innovative attempt was the result of work done by a committee comprised of the school's physical education staff, a number of interschool coaches who were not members of the physical education staff, and a number of staff who were concerned with the school's extra-curricular sports program. The committee was informally structured

and all membership was voluntary. Meetings began in late-March, 1976 and continued through to the end of June, 1976. By this time the framework for the innovative attempt was developed. The Intramural Director formalized the final details during the summer months.

Students were aware of the committee and the changes they were planning during the months of May and June, 1976. However, the actual changes were not made until September, 1976. Attempts were made to gain acceptance of the changes from: 1) students attending O'Leary, 2) grade nine students that would be attending O'Leary, and 3) teaching staff of O'Leary.

No plans were made to evaluate the changes made, other than taking a look at it after its first year of operation. However, the Intramural Director has produced attendance statistics with respect to the new intramural program.

CHAPTER 5

ANALYSIS OF THE CASE

This chapter contains an analysis of data that were collected from formal interviews with thirty staff members of O'Leary. Of these thirty staff members interviewed, thirteen were members of the committee that developed the innovative attempt, three were members of the school's administration, of which one member was also on the committee, and fifteen were not directly associated with the innovative attempt. A more comprehensive breakdown of the staff interviewed is included as Appendix B.

The purpose of the interview schedule utilized in these interviews was to gather data on the process of planning and implementing the changes in the extra-curricular sports program. Miller's "Model of a Systems Approach to Problem-Solving" was used as a framework for the interview schedule. The data are presented according to the nine sections of the interview schedule which parallel the nine specific problems enumerated in the previous chapter. Specifically, the interview gathered data concerning the following areas: 1) Awareness of and/or need for change, 2) Establishment of new and/or redefinition of existing goals, 3) Identification and definition of problems, 4) Selection and analysis of a priority problem, 5) Derivation of performance requirements, 6) Selection and/or generation of alternative solutions, 7) Testing and verification of solutions, 8) Selection and implementation of a priority solution, and 9) Evaluation of performance effectiveness.

Awareness of and/or Need for Change

In this section data are outlined pertinent to the problem--Was there an awareness and need for change evident with respect to the extra-curricular sports program? In order to gather data, questions were developed dealing with both a general and specific awareness of and/or need for change.

General Awareness

The basic question addressed to interviewees with respect to general awareness was--"During the 1975-76 school term what major changes did you feel were needed in the extra-curricular sports program?"

Seventeen per cent of the staff interviewed reported that they were not involved in the extra-curricular program and therefore, were not aware of any changes that were needed. Ten per cent responded that they were happy with the operations of both the intramural and the interschool program and the remaining eighty per cent interviewed suggested that changes should be made in the extra-curricular program.

Of the twenty-four people that constituted this eighty per cent, one person questioned the value of offering any extra-curricular sports program. This individual's belief was that the school should be offering an academic program and should not be involved in sports. Generally, the other twenty-three people felt that the extra-curricular program could be improved upon. More specifically, five people commented that the program placed too much emphasis on competition, thereby limiting the number of participants. Eleven people felt the program should involve more people. It was suggested that there were too many spectators and not enough participants, that mass involvement

in carry-over activities regardless of skill level was needed, and that not enough was being done to promote mass involvement in the extra-curricular program. For example, one person suggested that more involvement was needed by those staff who could generate student interest in carry-over activities. Moreover, four staff reported that the intramural program was poorly organized. These people pointed out that what was needed was a better organized and expanded intramural program which would make use of all facilities.

With respect to the interschool program, sixty-seven per cent of the interviewees were unhappy with its operations. These people suggested that the emphasis should be taken off the interschool program and placed on the intramural program. Some of the responses were--"The interschool program is duplicating efforts of the community." "The interschool program restricts the number of participants." "Too much money, time and effort of staff, and facilities are being spent on a small number of elite athletes." "The gym is being used by too small a group of people."

Specific Awareness

The basic question addressed to interviewees with respect to specific awareness was--"During the final months of the 1975-76 school term were you aware that the physical education staff had focused attention on a need for change in the extra-curricular sports program?"

All the staff members interviewed were aware that the physical education staff had focused attention on a need for change in the extra-curricular program. They all reported that the physical education staff were concerned with implementing changes that would improve

the currently operating extra-curricular program. Either directly or indirectly, all interviewees suggested that any change attempts would be focused on procuring mass participation in the extra-curricular program. However, two persons further commented that the physical education staff were also concerned with the time they were having to spend on coaching in addition to their regular teaching duties; therefore, they wanted to initiate changes that would lessen their extra-curricular load.

Sixty-three per cent of the staff interviewed, reported that they considered that this concern for change initially began with the physical education staff and then spread to interested staff. Thirty per cent suggested that it began with some members of the physical education staff, but not all, and then spread to other interested staff. Three per cent commented that this need for change was a system-wide concern and that all physical education teachers in the city were aware that changes were necessary.

More specifically, the four members of the physical education staff interviewed, reported that their awareness of this concern for change--namely, the issue of mass participation versus the development of the elite athlete--has been ongoing since they began teaching at O'Leary. Fifty-three percent of the staff interviewed, noted that they became aware of this concern for change through informal conversations with either members of the physical education staff or inter-school coaches. Moreover, thirty per cent of the staff interviewed pointed out that they became aware only after the formal proposal of the intended changes was presented at a general staff meeting in May. Three per cent reported that they had become aware as a result of

informal conversations with students.

Interviewees also identified some of the causative factors which they felt promulgated this concern about a need for change: Thirty per cent identified the arrival of both staff and students at 7:00 a.m. as a causative factor; twenty-seven per cent cited Fitness Week as a factor which "skyrocketed" awareness; thirteen per cent suggested the problem of securing staff members to coach interschool teams; thirteen per cent identified media coverage dealing with participation and physical fitness; ten per cent noted the concern physical education teachers were expressing about the amount of time they were expected to voluntarily devote to the extra-curricular program; and finally, three per cent suggested that coaches were dissatisfied with the time they spent on coaching and that coaches' wives were upset over the limited time their husbands spent at home.

Summary

Eighty-three per cent of the staff interviewed expressed their personal perceptions of changes that were needed in the extra-curricular program. Three per cent felt the extra-curricular sports program should be eliminated, whereas, eighty per cent suggested that the program should be improved upon. Seventeen per cent of the thirty people interviewed had no contact with the extra-curricular program and felt they could not comment on changes that were needed.

Every staff member interviewed was aware that the physical education staff had identified a need for change in the extra-curricular program. They all specified that this need for change focused on the improvement of the extra-curricular program by implementing changes

that would facilitate the involvement of all students in the extra-curricular program. However, perceptions varied among interviewees as to what brought about this need for change, when the need for change became evident, and who was initially concerned with this need for change.

Establishment of New and/or Redefinition of Existing Goals

This section deals with data pertinent to the problem--Were existing goals redefined and/or new goals established by both the physical education department and the school's administration? In order to gather data, questions were developed dealing with both the goals of the physical education department and the school.

Goals of the Physical Education Department

The basic question addressed to each staff member interviewed was--"With respect to the extra-curricular sports program did you perceive that the goals or objectives of the physical education department had been altered?"

Of those staff interviewed, sixty per cent did not know of any goals or objectives of the physical education department that had been changed. Three per cent suggested that there were no changes, while thirty-seven per cent reported that the goals and objectives had altered somewhat. These thirty-seven per cent suggested there was a realignment of goals; that is, a greater emphasis was being placed on the physical fitness of students and priorities were being shifted from the interschool program to the intramural program. Specifically, it was suggested that the intramural program would receive priority use

of facilities and funds, that junior interschool teams would be eliminated, and that emphasis would be placed on mass participation, enjoyment, and carry-over activities rather than on competition.

These thirty-seven per cent who indicated that the goals and objectives had altered, reported that this had taken place during the months of May and June 1976, but were to go into effect in September 1976. When questioned as to who was instrumental in having the emphases and priorities placed on goals and objectives shifted, these thirty-seven per cent communicated various perceptions. Among these were Mr. Jenkins, who was the physical education department head; Mr. Corwin, who was a vice-principal of O'Leary; and Mr. Dolan, who was the new Intramural Director. All of these individuals were members of the committee. Mr. Jenkins was mentioned most often--five times--and Mr. Jenkins in combination with Mr. Corwin and Mr. Dolan an equal number of times--two. Three people could not identify one person or combination of people, but suggested changes in goals and objectives were a result of the committee's efforts.

Goals of the School

The basic question addressed to those people who were interviewed was--"With respect to the extra-curricular sports program did you perceive that the goals or objectives of the school had been altered?"

Forty-three per cent of the staff interviewed reported that they did not know of any goals or objectives of the school that had altered. Three per cent communicated that no changes were made, while fifty-three per cent suggested that the school's administration had

definitely shifted emphasis from the interschool program to the intramural program and the objective of mass participation. For example, it was cited that the student athletic fee had been raised fifty cents with this additional money to be used by the intramural program. Also, the number of supervisors allocated to the intramural program was increased and Mr. Dolan was granted half time off in order to perform his duties as Intramural Director.

These sixteen people who comprise the fifty-three per cent who were aware of altered school goals were either members of the committee or the school's administration. They all reported that these changes in the emphasis placed upon school goals and objectives were made in May and June 1976, but were to go into effect in September 1976. Three of these sixteen people perceived Mr. Jenkins as instrumental in causing this shift of emphasis, two viewed Mr. Jenkins and Mr. Corwin, two viewed Mr. Jenkins and Mr. Dolan, and two viewed Mr. Corwin and Mr. Dolan.

Summary

With respect to the goals and objectives of the physical education department, sixty per cent did not know of any changes that had been made, three per cent perceived they had not altered, and thirty-seven per cent suggested that changes had occurred. Those changes that were perceived were: 1) priorities had been shifted from the interschool program to the intramural program and 2) a greater emphasis was placed on the goal of physical fitness. Perceptions varied as to who was instrumental in having these changes made.

With respect to the school's goals and objectives, forty-three

per cent did not know of any changes that had been made, three per cent perceived they had not altered, and fifty-three per cent suggested that a greater emphasis was placed on the intramural program and mass participation. Again perceptions varied as to who was intrumental in having these changes made.

Identification and Definition of Problems

Outlined in this section are data pertaining to the problem--Were problems inherent in the extra-curricular sports program identified and defined? In order to gather data relevant to this problem interviewees were addressed with the following question--"What problems were identified and defined and how was this done?"

Forty-seven per cent of the interviewees did not know if problems had been identified and defined. In presenting these problems, the researcher has grouped those problems that appear directly related. Both the defined problem and the per cent of interviewees who reported them are presented in Table 2.

The identification and definition of these problems resulted from informal discussions, according to the fifty-three per cent who were aware of identified and defined problems. The majority of these fifty-three per cent reported that it was informal discussions among committee members, whereas seven per cent suggested that only the physical education staff were involved in identifying and defining problems, and three per cent suggested that those staff attending a teacher inservice meeting dealing with the entire extra-curricular program were involved initially and then they passed the problems on to the committee dealing specifically with the extra-curricular sports

Table 2 Identified and Defined Problems

Problem	Per Cent of Interviewees
What is the role of intramurals and interschool athletics?	10
Can we accommodate both intramurals and interschool athletics?	10
If one program has to be emphasized--re time and energy of staff, facilities, and finances--which one do we emphasize?	23
What do we want to change and how do we change it?	3
How do we reorganize the extra-curricular program so as to improve it?	13
How can we involve more people in the extra-curricular sports program?	33
How can better use be made of time and energy of staff, facilities, and money such that all students will benefit?	43
Can intramurals replace interschool athletics and will it be worthwhile?	7
Do interschool athletics have to be eliminated in order to have a good intramural program?	3
Which interschool sports should be eliminated?	7
Should junior interschool teams be eliminated?	3
Is competitiveness good?	3
How can the workload of those staff that both teach and coach be lessened?	7

program.

Summary

Of the thirty staff interviewed, forty-seven per cent did not know of any problems that had been identified and defined, whereas fifty-three per cent elaborated on what problems were defined, who was involved in defining them, and what process was used to define them. Emphasis appeared to focus on four general problems: 1) What is the role of intramurals and interschool athletics? 2) How can the extra-curricular program be reorganized so as to improve it? 3) Can intramurals replace interschool athletics and will it be worthwhile? 4) Finally, how can the workload of those staff that both teach and coach be lessened? Interviewees reported that these problems were identified and defined through the process of informal discussions, but various perceptions were reported as to who was involved in these informal discussions.

Selection and Analysis of a Priority Problem

In this section, data are analyzed pertaining to the problem—Were problems categorized according to some predetermined criteria and one problem along with its change context selected to be analyzed? In order to gather data relevant to this problem interviewees were asked the following question—"What process was used to select a problem to be dealt with and what was this selected problem?"

Seven per cent of the thirty staff interviewed did not know if a specific problem had been selected to be dealt with. The other ninety-three per cent of the interviewees reported that a priority problem had been selected to be dealt with. However, there were

varying perceptions as to what this problem was. The various priority problems reported, along with the per cent of interviewees who reported them are presented in Table 3.

With respect to the process used to categorize and select a priority problem, fifty per cent reported that this was done through informal discussion, whereas the other fifty per cent claimed that they did not know how a priority problem was selected. Furthermore, there were varying perceptions as to who was involved in selecting a priority problem. Forty-seven per cent of the interviewees noted that all members of the committee were involved, twenty-seven per cent communicated that the physical education staff had initially selected the problem to be dealt with and presented it to the committee, who had in turn re-analyzed all identified problems and agreed to deal with the problem selected by the physical education staff. Three per cent suggested only the physical education staff were involved, another three per cent commented that physical education department heads and physical education teachers throughout the city were involved, and finally, twenty per cent did not know who was involved.

Interviewees were also queried with respect to the importance they associated with the problem selected to be dealt with. Fifty per cent appeared to be highly committed to initiating changes that would alleviate the identified problem, whereas forty-seven per cent appeared to feel the problem was important and should be dealt with. These forty-seven per cent did not appear to be as highly committed to initiating change as the aforementioned group. One person responded, "If they say it is a problem that must be dealt with, then it must be."

Table 3 Selection of a Priority Problem

Priority Problem	Per Cent of Interviewees
How can we better utilize the time and energy of staff, facilities, and money so as to provide opportunities for all students to participate in the extra-curricular sports program?	50
What can be done to improve the extra-curricular sports program?	13
How can the extra-curricular program be reorganized such that all students can benefit from it?	10
Can intramurals replace interschool athletics and still be worthwhile?	10
How can the emphasis be taken off competition?	10

Summary

Of those people interviewed the fifty per cent who were aware of the process used to select a priority problem, reported that selection was done through informal discussion. However, the ninety-three percent who reported a problem was selected, had various perceptions as to what the selected problem was, and who was involved in selecting it. The priority problem most often reported was--How can we better utilize the time and energy of staff, facilities, and money so as to provide opportunities for all students to participate in the extra-curricular sports program? The majority of interviewees suggested that it was the committee who made the final decision as to what major problem would be dealt with. With respect to the importance that interviewees associated with the priority problem selected, everyone suggested that the problem was important, however, people did associate varying degrees of importance to it.

Derivation of Performance Requirements

Analysis presented in this section deals with data pertaining to the problem--Were performance requirements established to enable problem resolution? In order to gather data relevant to this problem interviewees were queried with respect to the following question--"What objectives were established in order to aid in solving the problem?"

Respondents can be grouped into three categories: 1) those who did not know of any objectives, 2) those who were aware that a written philosophy and set of objectives had been formulated, and 3) those who were not aware of the written philosophy and set of

objectives, but could identify some established objectives. Twenty-three per cent of the interviewees were not aware of the formulation of any objectives, whereas fifty per cent were aware that a written philosophy and objectives had been formulated. The fifteen people who comprised this fifty per cent identified the main objective as being "to increase the participation of both staff and students in the extra-curricular sports program." Five of these fifteen people identified a secondary objective as "to provide a more varied program that would place an emphasis on carry-over activities, enjoyment, and fitness." Twenty-seven per cent were not aware of a written philosophy and set of objectives, but were aware of formulated objectives. All eight people who comprised this twenty-seven per cent identified mass participation in the extra-curricular program as a prime objective. Of these eight, five people also identified that an objective was to decrease the emphasis on competition, while in turn placing more emphasis on carry-over activities, enjoyment, and fitness. One person suggested that an objective was "to decrease the time and energy commitment of physical education staff."

Thirty-three per cent of the thirty people interviewed were not aware of who was involved in deriving performance objectives, whereas sixty-seven per cent reported that it was the committee that had formulated them.

Summary

The primary objective that those people who were interviewed identified, focused on the development of mass participation in the extra-curricular sports program. Sixty-seven per cent of those who

were interviewed identified the committee as being responsible for the formulation of performance objectives, whereas the other interviewees did not know who was responsible. Furthermore, not all people were aware that a written philosophy and set of objectives had been formulated by the committee. Specifically, twenty-three per cent were not aware that objectives had been established, fifty per cent were aware of the written objectives, and twenty-seven per cent were aware of some objectives, but not that they had been formally documented.

Selection and/or Generation of Alternative Solutions

This section deals with data pertaining to the problem--Were alternative solutions and strategies generated and/or selected? Although a number of questions were developed in order to gather data relevant to this problem, the basic question which was addressed to those people interviewed was--"What sort of attempt was made to generate alternative solutions?"

Of the thirty people interviewed, fifty per cent were not aware of any attempt to generate alternative solutions and fifty per cent were aware that alternatives had been generated. Specifically, these people reported that alternatives were generated by committee members during informal discussion sessions. Ten per cent of the interviewees mentioned that presentations by guest speakers from Jasper Place High School and the university helped in generating alternative solutions. Moreover, twenty-three per cent reported that the physical education staff had engaged in reading material pertaining to extra-curricular sports programs which led to the generation of some

alternatives. These alternatives which were reported as being generated and the per cent of people who reported them are presented in Table 4.

Summary

Fifty per cent of the thirty people interviewed reported that alternatives were generated by committee members through informal discussions. Information sources which were used to help in generating alternatives were: 1) literature dealing with extra-curricular sports programs, 2) the ideas presented by a guest speaker from Jasper Place High School, and 3) the ideas presented by a guest speaker attending the University of Alberta. The alternatives that were reported focused on eliminating various aspects of the interschool sports program.

Testing and Verification of Solutions

Presented in this section is data pertaining to the problem—Were solutions and strategies tested to verify feasibility and practicality? With respect to this problem data were gathered by addressing interviewees with the following question—"What process was used to test alternatives with respect to their feasibility and practicality?"

Respondents can be grouped into the following categories: 1) those who were not aware of any testing—seventeen per cent of the interviewees, 2) those who suggested that all of the generated alternatives were informally tested—forty-three per cent of the interviewees, and 3) those who reported that only the final proposal was tested—forty per cent of the interviewees. With respect to the second group—those who suggested that all the generated alternatives

Table 4 Generated Alternative Solutions

Alternatives	Per cent of Interviewees
Eliminate all interschool teams.	27
Eliminate all junior interschool teams.	20
Eliminate all non-viable interschool teams.	17
Eliminate all junior interschool teams except junior football.	17
Develop an intramural program that would encompass the interschool program; that is, eliminate the interschool program and develop a three-tier intramural program.	7
Eliminate all junior teams, but only those non-viable senior teams.	3
Obtain outside coaching for the interschool program.	3

were tested--various methods were reported as being used to informally test alternatives. These methods include: 1) testing for congruency with respect to the established philosophy and set of objectives, 2) feedback from students invited to attend a committee meeting, 3) reflecting on the present extra-curricular program, 4) feedback from the Students' Union Sports Convener, and 5) testing with respect to the human and material resources available for the extra-curricular program.

The third category consisted of those people who reported that only the final proposal was tested. Specifically, they suggested that the final proposal was presented at a general staff meeting in May. At this time the staff were requested to react to the proposal; that is, whether the staff felt the proposal was feasible and practical, especially with respect to the supervisors who would be required for the intramural program. It was also reported that the actual testing of the innovative attempt would be based on its operation during the 1976-77 school term.

Summary

Of the thirty people interviewed, seventeen per cent reported that they were not aware of any testing of alternative solutions, forty-three per cent claimed that all of the alternatives were tested by various informal means, and forty per cent reported that only the final proposal for change was tested by presenting it to the staff at a staff meeting and requesting feedback. No formal means of testing alternative solutions were reported by interviewees.

Selection and Implementation of a Priority Solution

The problem dealt with in this section is--Was a priority solution and strategy selected? In order to gather data relevant to this problem, questions were developed dealing with: 1) the selection of a solution and 2) the implementation of the solution.

Selection of a Solution

The basic question addressed to those interviewed was--"What solution was selected to be implemented?"

Ninety-three per cent of the thirty people interviewed were aware that a solution had been selected to be implemented. This ninety-three per cent all reported that one aspect of the solution was the expansion of the intramural program; however, there were varying perceptions of the second aspect of the solution which dealt with the interschool program. With respect to this second aspect of the solution, perceptions that were reported are presented in Table 5.

With respect to the first aspect of the solution--the expansion of the intramural program--various perceptions were communicated as to what process was used to select this solution. Forty-three per cent of the thirty people interviewed did not know how or who was involved in arriving at this solution. Thirty-seven per cent reported that this solution was recommended by the physical education staff when the committee was first formed. After much discussion committee members formed a consensus on this solution. Thirteen per cent pointed out that committee members, through informal discussions, had all agreed to expand the intramural program. Three per cent

Table 5 Selected Solution dealing with the Interschool Program

Solution	Per Cent of Interviewees
Eliminate all junior interschool teams.	37
Eliminate some interschool teams.	33
Eliminate all junior interschool teams and all non-viable senior interschool teams.	7
Eliminate all non-viable senior interschool teams.	3
Eliminate all interschool teams.	3
Eliminate all non-viable interschool teams, both junior and senior.	3

suggested that the original idea of expanding the intramural program was formulated by the committee, but that the physical education staff made the final decision.

With respect to the second aspect of the solution which dealt with the interschool program, forty-three per cent of the interviewees were not aware of how or who was involved in selecting a solution. The remaining fifty-seven per cent communicated various perceptions. Of the seventeen people who comprised this fifty-seven per cent, eleven people reported that a formal vote was held, with only members of the committee partaking in the vote, whereas three people suggested that the selection was made through informal discussions by committee members during their meetings. Three people reported that the selection of a solution, with respect to the interschool program, had been made completely by the physical education staff and then presented to the committee.

Implementation of the Solution

The basic question addressed to those interviewed was--"How was the solution implemented?"

Responses in this area deal with two time periods--implementation that occurred during the 1975-76 school term and implementation that occurred during the 1976-77 school term. Implementation that occurred during the 1975-76 school term can be further broken down into implementation dealing with O'Leary School and implementation dealing with the junior high feeder schools to O'Leary.

1975-76 School Term. With respect to the staff and students of O'Leary, implementation activities that interviewees identified are

presented in Table 6. A number of interviewees also reported that during the 1975-76 school term attempts were made to inform the junior high schools whose students would attend O'Leary of the innovative attempt being developed. Specifically, it was reported by seventeen per cent that both members of O'Leary's Students' Union, and the Intramural Director for the new intramural program, had visited the junior high schools and explained the new extra-curricular program to all the grade nine students. Furthermore, ten per cent reported that within the student handbook, which is distributed to all grade nine junior high students who will attend O'Leary, there was a section which described the new extra-curricular program. Moreover, seven per cent reported that during the grade nine students' orientation visit to O'Leary, a number of the physical education staff outlined the new extra-curricular program to them.

1976-77 School Term. Implementation activities that occurred during the 1976-77 school term as reported by those staff who were interviewed are presented in Table 7. The majority of these activities appear to focus on publicizing the new intramural program, although some activities do focus on structural support for the program.

Factors Affecting the Innovation's Implementation

With respect to the implementation of the innovation, data were gathered dealing with three factors affecting the implementation of the innovation. These factors are the barriers to the innovative attempt, the facilitators to the innovative attempt, and the deficiencies in the innovative attempt.

Table 6 Implementation Activities during the 1975-76 School Term

Activity	Per Cent of Interviewees
Presentation to staff of the proposed innovative attempt.	93
Selection of supervisors for the intramural program.	80
Informal feedback to students of the committee's work.	43
Administration's agreement to give the Intramural Director half time off to operate the program.	43
Presentation of a slide and tape show on the new intramural program to many of the school's classes.	23
Physical education staff created an interest in the new intramural program by informally discussing it with other staff members.	10
A guest speaker from the YMCA addressed the staff at a staff meeting on the subject of physical fitness.	3

Table 7 Implementation Activities during the 1976-77 School Term

Activity	Per Cent of Interviewees
Bulletin board displays outlining the new intramural program and the results of intramural activities.	77
Presentation of the developed innovative attempt at a school staff meeting early in September.	63
Commencement of the first intramural activity of racquetball during the second week of September.	57
Administration's granting the Intramural Director half time off in order to operate the program.	53
Final selection and timetabling of supervisors for the intramural program.	40
Providing a description of the new intramural program in a newsletter which was sent to parents in September.	40
Presentation of a slide and tape show on the new intramural program to some classes.	13
Publishing of articles in the school newspaper which dealt with the intramural program.	13
Requesting of staff members to inform students of the intramural program and stress participation in it.	13
Enrolling of students in a special physical education class which was to directly work with the Intramural Director.	13
Institution of a fifty cent raise in the athletic fee to help fund the intramural program.	13
Publicizing the new intramural program over the school's public address system.	7

Barriers. In order to gather data relevant to this factor interviewees were asked the following question--"What did you perceive as barriers to this change?"

Of the thirty staff members interviewed, thirteen per cent reported that they were aware of no barriers to this change, whereas the remaining eighty-seven per cent reported a variety of barriers. Barriers that were identified can be grouped into four categories: 1) those dealing with the committee, 2) those dealing with the staff of O'Leary, 3) those dealing with the students of O'Leary, and 4) those dealing with other schools in the system and the central office.

Permeating all aspects of this change attempt were two barriers. They are: 1) there is a tradition of having both junior and senior interschool teams and 2) many people were not committed to the changes made. The specific barriers that were identified are presented in Table 8.

Facilitators. The question that was addressed to interviewees was--"What did you perceive as facilitators to this change?"

Of the thirty staff who were interviewed, only three per cent were unaware of any actions or persons who may have enhanced the development and adoption of the planned changes in the extra-curricular sports program. However, the remaining staff who were interviewed, reported a variety of facilitators. Of these facilitators the cooperation and support of the school's administration was reported most frequently--seventy-seven per cent of the interviewees reported this. Specifically, people reported that this cooperation and support

Table 8 Barriers to the Innovative Attempt

Category	Barriers	Per Cent of Interviewees
The Committee	It was an internalized tradition of both staff and students, including committee members, that emphasis should be on the interschool program, not on the intramural program.	13
	During the initial committee meetings, members felt threatened by the central office and parents. Much of this tension was relieved once the committee gained the support of the school principal.	7
	The majority of the members of the committee said these changes were a terrific idea, but they never internalized the changes.	7
	People on the committee often changed their minds dramatically; that is, one day a member would argue for an idea, and the next meeting would argue against the same idea.	7
Students	Students' negative attitudes toward the changes being planned and made.	53
	Student apathy; that is, students who did not care what changes were made in the extra-curricular program.	13
	Students with high athletic ability were dominating playing time on intramural teams.	13
	Students who were not involved in the intra-mural program.	10
	Students who did not understand the changes that were planned and implemented.	10
The Staff	Staff apathy; that is, staff who were indifferent to this change and who were not involved in the intramural program.	20
	Supervisors who were upset with the amount of time they had to supervise.	17

Table 8 (Cont'd)

Category	Barriers	Per Cent of Interviewees
	Staff who were upset with the Intramural Director receiving half time off when they were just as busy and they had no time off.	13
	Staff who felt there was too much emphasis on sports and not enough emphasis on academics.	10
	Staff who did want to coach interschool teams.	7
	Staff who were not aware of or who did not understand the changes that were planned and implemented.	7
	Staff who resisted any form of change.	7
	Supervisors who were not present for scheduled duty.	7
Other Schools and the Central Office	Schools that undermined the changes by communicating that changes were a result of the physical education staff attempting to eliminate their coaching responsibilities.	3
	Complaints from junior high feeder schools pertaining to the fact that there were no junior interschool teams and they felt there should be.	3
	Questions from both the central office and other high school principals as to why and for what purpose changes were made.	3

took the form of the administration's receptivity to change, granting of the Intramural Director half time off, securing the required number of supervisors for the intramural program, making funds available for the intramural program, agreeing to schedule a number of selected students for a special physical education class which would operate the intramural program, and encouraging the committee which was developing the changes.

Other facilitators that were identified can be categorized into four groups. These groups include the facilitators that deal with: 1) the committee, 2) the staff of O'Leary, 3) the students of O'Leary, and 4) the innovation itself. The specific facilitators that were reported for each group are presented in Table 9.

Deficiencies. Those staff who were interviewed were addressed with the following question--"What did you perceive as deficiencies in this change attempt?"

Of the thirty staff interviewed, seven per cent were aware of no deficiencies in any aspects of the change attempt. The responses of the ninety-three per cent who did perceive deficiencies dealt with various aspects of the innovative attempt. These aspects include: 1) the committee, 2) the development of the innovation, 3) the innovation itself, 4) the implementation of the innovation, and 5) the evaluation of the innovation attempt. The specific deficiencies included in each of these categories are presented in Table 10.

Summary

Of the thirty people interviewed, ninety-three per cent reported that a solution had been selected, while seven per cent did

Table 9 Facilitators to the Innovative Attempt

Category	Facilitators	Per Cent of Interviewees
The Committee	The committees' enthusiasm and hard work. Mr. Jenkins, Mr. Corwin, Mr. Dolan, and Miss Newman were mentioned specifically.	37
	The energetic and forward-looking qualities of the physical education staff.	17
	The detailed planning and organization done by the committee.	17
	The strong and highly respected people who comprised the committee.	10
	The link created between the administration and the committee by Mr. Corwin being a member of the committee.	10
The Staff	The involvement and enthusiasm of staff involved in the intramural program.	40
	The positive feedback from staff about the changes made.	10
	The changes that were instituted made sense to the staff.	7
The Students	The students' enthusiasm for and participation in the intramural program.	53
	The diligent work and enthusiasm of the members of the special P.E. 30 class which help operate the intramural program.	13
	The increased awareness and concern for physical fitness by students, especially after Fitness Week at O'Leary.	10
	The publicity that was given to the intramural program by the photography club and students' newspaper.	7

Table 9 (Cont'd)

Category	Facilitators	Per Cent of Interviewees
The Innovat[illegible]	The opportunity was given to all people to participate.	23
	The intramural program consisted of both individual and carry-over activities.	20
	Participation in the intramural program was an enjoyable experience.	20
	The excellent job done by the Intramural Director.	10
	The intramural program was composed of a wide variety of activities many of which were novel.	7
	The activity of racquetball.	7
	The Department of Parks and Recreation provided sports equipment to the school.	7

Table 10 Deficiencies in the Change Attempt

Category	Deficiencies	Per Cent of Interviewees
The Committee	Some members dropped off the committee once it was decided to eliminate all junior interschool teams.	20
	Some members of the committee were on the committee with the sole purpose of seeing that interschool sports were eliminated.	7
	The committee did not have a formalized structure or formalized procedures for its operation.	3
Development of the Innovation	The committee did not carry through with the development of the intramural program. It was left up to the Intramural Director to do during the summer.	10
	Not enough information was provided on what intramurals should be.	7
	Students had little input into the development of the innovation.	7
	The plans that were made for coaches to give instructional workshops as part of the intramural program never occurred.	7
	There was poor coordination between the intramural program and the interschool swimming program.	3
	There were not enough supervisors for the intramural program.	3
The Innovation	Not enough attention was given to developing spirit within the intramural houses.	7
	The changes that have been made have eliminated too much of the competitive aspect.	3

Table 10 (Cont'd)

Category	Deficiencies	Per Cent of Interviewees
	The intramural program does not place enough emphasis on the development of responsible students.	3
	Not enough staff are involved in the intramural program.	3
	The intramural program does not appear to be reaching those non-athletic students it was designed to involve.	3
	The intramural program does not provide for skill instruction and development.	3
Implementation of the Innovation	There was not enough emphasis placed on informing both staff and students--especially the grade ten students--of the changes being made and the reasons for them.	23
	There was not enough emphasis placed on selling the intramural program to both staff and students.	17
	Publicity announcements were not allowed over the school's public address system during the first few months of the 1976-77 school term.	10
	Some staff did not appreciate being told to become involved in the intramural program.	10
	There was not enough emphasis on changing persons' attitudes with respect to the tradition of having both junior and senior interschool teams.	7
	There was not enough of a continuing emphasis on participation by all, regardless of athletic ability.	3
Evaluation of the Innovation	There was no evaluation done with regard to the committee process and the decisions the committee was making.	3

not know of a solution that had been selected. The ninety-three per cent who reported a solution had been selected all reported that it had been decided to expand the intramural program. Furthermore, they reported that changes were also to be made in the interschool program. However, interviewees reported a variety of changes which they perceived had been decided upon. There were also various perceptions communicated pertaining to who was involved and how they were involved in deciding what changes would be implemented.

The implementation of the planned change was grouped into two time periods: 1) the 1975-76 school term and 2) the 1976-77 school term. Again a great variety of perceptions of implementation activities were identified for each time period. For the 1975-76 school term the most frequently reported implementation activities were the presentation to the staff of the proposed innovative attempt and the selection of supervisors for the intramural program. For the 1976-77 school term the most frequently reported implementation activities include bulletin board displays outlining the new intramural program and results of intramural activities, the presentation of the developed innovation at a staff meeting early in September, and the commencing of the first intramural activity.

The interviewees' perceptions of barriers and facilitators to the innovative attempt and their perceptions of the deficiencies in the innovative attempt were also presented. Thirteen per cent of those interviewed reported they had no knowledge of any barriers, whereas eighty-seven per cent reported a variety of barriers which appeared to deal with four areas: 1) the committee, 2) the staff, 3) the students, and 4) the central office and other schools. Only three per cent were

not aware of anything which facilitated this change attempt. Those facilitators, which the remaining ninety-seven per cent identified, appeared to group into the five areas: 1) the administration, 2) the committee, 3) the staff, 4) the students, and 5) the innovation itself. Deficiencies which were reported were also varied and numerous, with seven per cent unable to identify any deficiencies in the innovative attempt. Deficiencies appeared to deal with various aspects of the innovative attempt. These aspects are: 1) the committee, 2) the development of the innovation, 3) the innovation, 4) the implementation of the innovation, and 5) the evaluation of the innovative attempt.

Evaluation of Performance Effectiveness

The problem to be dealt with in this section is--Was the performance effectiveness of the solution and strategy evaluated throughout the change process? In order to gather data relevant to this problem, questions were developed dealing with both the development of plans to evaluate the innovation's effectiveness and changes which have been associated with this innovative attempt.

Evaluation Plans

Interviewees were addressed with the question--"What plans were formulated to evaluate the effectiveness of the changes that were made?"

Thirty per cent of the people interviewed were not aware of any plans to evaluate, or of any actual evaluation, of the intramural program. Seventy per cent reported that the only type of formal evaluation was the collection of frequency statistics on participation in the intramural program. Furthermore, seven members of the committee

reported that no formal plans had been developed to evaluate the changes, but it had been agreed to look at the extra-curricular program after its first year of operation. The Intramural Director reported that plans were made to evaluate the intramural program's effectiveness. Specifically, it was suggested that a written report would be submitted on each of the intramural activities. One staff member was to be responsible for one report on one activity; however, this was never done. Moreover, it was suggested by four people that informal evaluation was occurring whenever staff became involved in a discussion of the changes that have been made.

Associated Changes

The basic question addressed to interviewees was--"What changes do you feel have resulted from this new extra-curricular sports program?"

A number of changes were reported as being associated with the implementation of the innovation. The most frequently reported change--ninety per cent of interviewees reported this--is that a greater number of staff and students, including those staff and students who have never before participated in the extra-curricular program, are now actively involved in the intramural program. Table 11 presents a more detailed outline of the associated changes which interviewees reported.

Those staff who were interviewed, freely communicated their perceptions of the effectiveness of the changes that had been instituted. Ninety-three per cent reported that the expansion of the intramural program was a "terrific improvement", while seven per cent suggested that this new intramural program was no better or worse than

Table 11 Changes Resulting from Innovative Attempt

Changes	Per Cent of Interviewees
There is greater interest and enthusiasm for this intramural program.	40
There is a greater awareness and concern for physical fitness by both staff and student.	37
Some of the barriers existing between teachers and students have been overcome for those that participate in the intramural program.	13
Students have become more irresponsible, and an atmosphere of complacency has been created.	10
The school is much busier, especially at 7:00 a.m.	10
Some teachers have become frustrated because they are unaware of the details of the new intramural program, especially with respect to the house system.	7
Some teachers have become upset with the amount of intramural supervision they must engage in.	3
O'Leary is no longer a major force in interschool athletics.	3
The physical education staff and other teachers who are coaches have less of a workload.	3
Grade 10 students became a functional part of the student body more quickly.	3

the previous one. Thirteen per cent reported that they were unhappy with the elimination of junior interschool teams, whereas the other interviewees approved of this change.

Summary

The Intramural Director reported that plans were made to evaluate the intramural program, but they had not been carried out. Seventy per cent of interviewees--twenty-eight people--reported that the only type of formal evaluation which had been done was a frequency count of participants. It was also suggested by seven of these twenty-one people, that informal evaluation was being done by all people involved in the extra-curricular program. Thirty per cent were not aware of any evaluation plans or procedures.

People also communicated various perceptions as to changes which were associated with the innovative attempt. Ninety per cent reported that the most significant change was that a greater number of staff and students, including those staff and students who had never before participated in the extra-curricular program, were now participating in the intramural program. Moreover, the majority of staff communicated that these changes had resulted in an extra-curricular program which better meets the needs of the students of O'Leary.

Summary

This chapter has dealt with data that were collected from formal interviews of thirty staff members of O'Leary. The purpose of the interview schedule used in these interviews was to gather data on the process of change through the framework of Miller's "Model of a

Systems Approach to Problem-Solving". Data were collected pertaining to all nine states of this model.

When questioned with respect to the first stage--Awareness of and/or need for change--eighty-three per cent of the interviewees expressed numerous personal perceptions of changes that were needed in the extra-curricular sports program, whereas seventeen per cent felt they could not comment on needed changes because they were never in contact with the program.

In dealing with the second stage--Establishment of new and/or redefinition of existing goals--thirty-seven per cent of the interviewees reported that the goals and objectives of the physical education department had undergone changes and fifty per cent commented that the goals and objectives of the school had undergone changes. These changes included the reordering of goals and objectives; that is, the priorities placed on goals and objectives were shifted.

With respect to the third stage--Identification and definition of problems--fifty-three per cent of the interviewees elaborated on the problems defined, who was involved in defining them, and what process was used to define them, whereas forty-seven per cent were not aware of the identification and definition of problems.

For the fourth stage--Selection and analysis of a priority problem--ninety-three per cent of those interviewed--twenty-eight people--indicated that a problem had been selected, though there were various perceptions as to what this problem was. Fifteen of these twenty-eight people reported that this selection was made through the process of informal discussion, but various perceptions were reported with respect to who was involved in selecting the problem to be dealt with.

Questions dealing with the fifth stage--Derivation of performance objectives--showed that twenty-three per cent of the interviewees were not aware of the formulation of any performance objectives, fifty per cent were aware that a written philosophy and a set of objectives had been formulated, and twenty-seven per cent were not aware of a written philosophy and set of objectives, but were aware that objectives had been formulated.

In regard to the sixth stage--Selection and/or generation of alternative solutions--fifty per cent of those interviewed reported that alternatives were generated by committee members through informal discussion. The alternatives reported by this fifty per cent appeared to focus on eliminating various aspects of the interschool sports program.

Of significance to the seventh stage--Testing and verification of solutions--was that seventeen per cent of the interviewees reported that testing of solutions had occurred. When questioned about the eighth stage--Selection and implementation of a solution--ninety-three per cent of those interviewed claimed that it had been decided to expand the intramural program, but reported various decisions as to what aspects of the interschool program would be eliminated. This ninety-three per cent also elaborated on how the solution was implemented. Moreover, over eighty-three per cent communicated what they perceived as barriers and facilitators to this change attempt and deficiencies of the change attempt.

With respect to the final stage--Evaluation of performance effectiveness--thirty per cent of those interviewed were not aware of

any evaluation of the program, whereas seventy per cent reported that statistics on participation were kept. Furthermore, the majority of interviewees communicated that the implemented changes have resulted in an extra-curricular sports program which better meets the needs of O'Leary's students.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The purpose of this study was to test the usefulness of a conceptual model--Miller's "Model of a Systems Approach to Problem-Solving"--to facilitate an understanding of the process of planned change. Specifically, the general problem studied was:

> To what extent does Miller's "Model of a Systems Approach to Problem-Solving" facilitate an understanding of the processes involved in a planned change; namely, the reorganization of the extra-curricular sports program in an Edmonton Separate School?

More specifically, the applicability of the nine steps of Miller's problem-solving model were tested: 1) Awareness of and/or Need for Change, 2) Establishment of New and/or Redefinition of Existing Goals, 3) Identification and Definition of Problems, 4) Selection and Analysis of a Priority Problem, 5) Derivation of Performance Requirements, 6) Selection and/or Generation of Alternative Solutions, 7) Testing and Verification of Solutions, 8) Selection and Implementation of a Priority Solution and 9) Evaluation of Performance Effectiveness.

Miller's model was tested by applying it to a case study of an innovative attempt--the reorganization of the extra-curricular sports program at O'Leary School. In order to develop an accurate account of this specific innovation attempt, data were obtained from: 1) discussions with the school's administrative staff, teaching staff

and student body, 2) a document search of the school's physical education files, and 3) formal interviews with thirty of the school's staff.

In order to test Miller's "Model of a Systems Approach to Problem-Solving", an interview schedule was developed based on the nine steps inherent in Miller's model. This schedule was used in interviewing thirty of the school's staff. These interviews were taped, transcribed, categorized according to the nine problems to be studied, and finally data within each category were grouped according to similarity of responses.

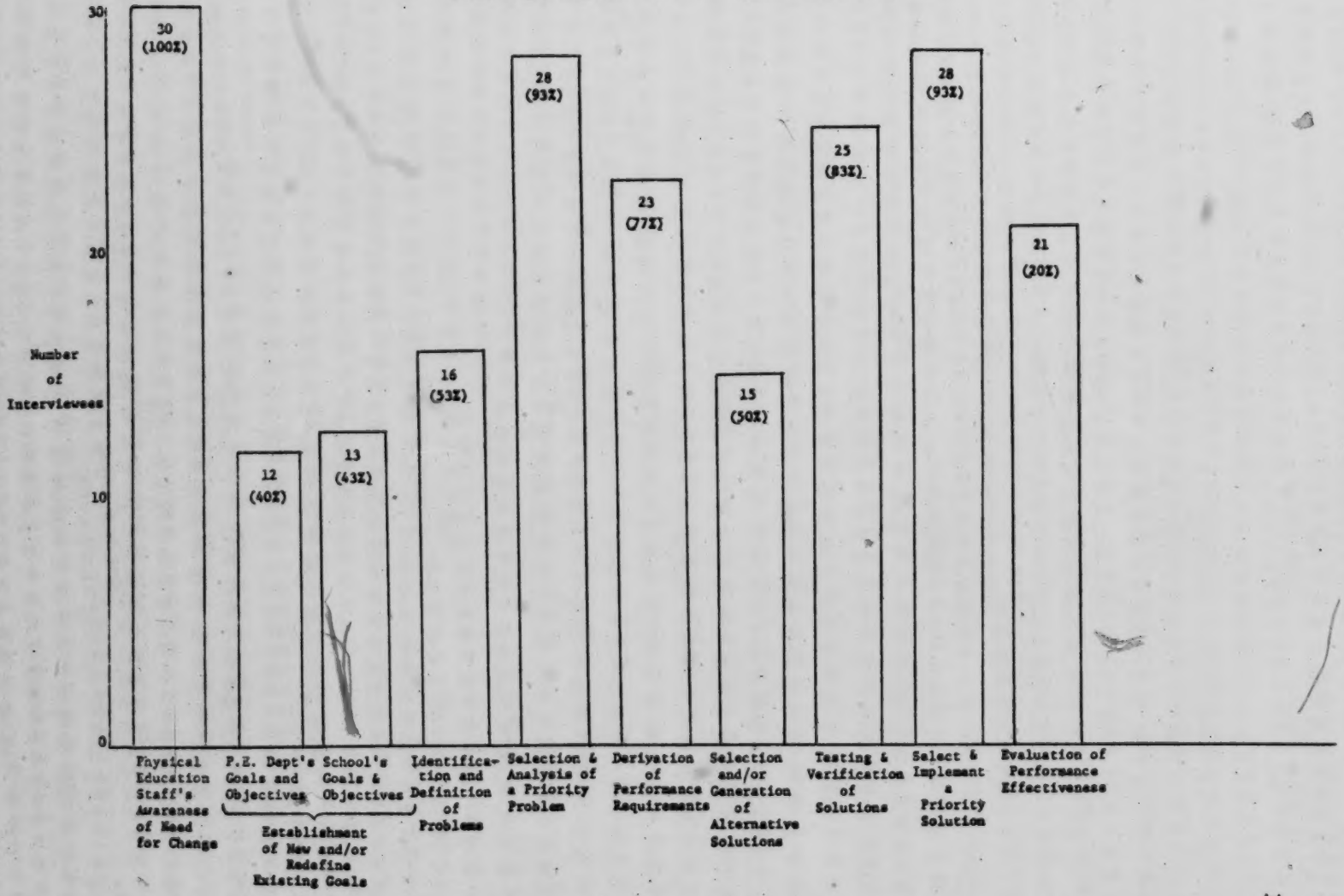
In attempting to summarize the data collected from these formal interviews, two levels have been selected. At the first level, the data is summarized in a global way. That is, a frequency graph is developed to illustrate how many interviewees were aware of the process of change progressing through each of the nine stages of Miller's problem-solving model. This graph is presented in Figure 2. The vertical axis contains the number of interviewees, while the horizontal axis contains the nine stages of Miller's "Model of a Systems Approach to Problem-Solving".

At the second level, specific data is summarized according to the nine specific problems that were studied. Some of the data are presented in Figure 2.

Problem 1

"Was there an awareness and need for change evident with respect to the extra-curricular sports program?" All of the thirty staff interviewed were aware that the physical education staff had

Figure 2: Percentage of Interviewees who were aware of the change process proceeding through each of the nine problem-solving stages.



identified a specific need for change in the extra-curricular program. Moreover, each person reported that this need for change focused on the improvement of the extra-curricular sports program by implementing changes that would facilitate the involvement of all students in the program. Eighty per cent of the interviewees either directly or indirectly, stated that this identification of a need for change was brought about by an increasing awareness and concern for physical fitness. Sixty-seven per cent reported that they became aware of this need for change through informal discussions with members of the physical education staff and interschool coaches, while thirty per cent noted that they became aware only after the formal proposal of intended changes was presented at a staff meeting in May 1976. Three per cent became aware as a result of informal discussions with students.

Problem 2

"Were existing goals redefined and/or new goals established by both the physical education department and the school's administration?" Forty per cent of the thirty people interviewed were aware that goals and objectives of the physical education department had altered somewhat, while forty-three per cent were aware that goals and objectives of the school had undergone changes. Interviewees did not believe that new goals had been established, but rather that emphasis placed on the goals and objectives of the extra-curricular program had shifted. Specifically, these people reported that: 1) priorities were shifted from the interschool program to the intramural program and that 2) a greater emphasis was placed on the objective of developing physically fit students. Various members of the committee were

perceived as being instrumental in having these goals and objectives realigned; however, there was a consensus that alterations were planned in May and June of 1976, but did not go into effect until September 1976.

Problem 3

"Were problems inherent in the extra-curricular sports program identified and defined?" Fifty-three per cent of the thirty staff who were interviewed were aware that problems had been identified and defined with respect to the extra-curricular sports program. Those problems which were reported appeared to focus on four general areas: 1) defining the role of the interschool and intramural programs, 2) improving the extra-curricular program by reorganizing it, 3) replacing the interschool program with an expanded intramural program, and 4) lessening the workload of those staff who both teach and coach. All fifty-three per cent commented that problems were identified and defined through informal discussions. However, there are varying perceptions as to who was involved in this process. The majority of these fifty-three per cent noted that the identification and definition of problems resulted from the efforts of all members of the committee.

Problem 4

"Were problems categorized according to some predetermined criteria and was one problem, along with its change context, selected and analyzed?" Ninety-three per cent of the thirty people interviewed were aware that a problem had been selected to be dealt with. The problem reported by fifty per cent of those interviewed was--"How can better use be made of the time and energy of staff, facilities, and finances so as to provide opportunities for all students to participate

in the extra-curricular sports program?" Furthermore, fifty per cent were aware of how a priority problem was selected. Of this fifty per cent, ninety-four per cent reported that ultimately it was the committee's choice, while six per cent commented that physical education teachers throughout the city were involved in the selection process. However, all fifty per cent agreed that the selection process was based entirely on informal discussions.

Problem 5

"Were performance requirements established to enable problem resolution?" Seventy-seven per cent of the thirty people interviewed were aware that performance requirements were established. Fifty per cent claimed that a written philosophy and set of objectives were formulated by the committee and were used as performance requirements, while twenty-seven per cent noted that performance objectives had been established, but not that they had been documented. All seventy-seven per cent suggested the primary objective which was developed, focused on developing mass participation in the extra-curricular sports program.

Problem 6

"Were alternative solutions and strategies generated and/or selected?" Of the thirty people interviewed, fifty per cent were aware that alternatives had been generated. These fifty per cent noted that alternatives were generated by committee members through informal discussions. Moreover, they agreed that two outside resources were utilized to help generate alternatives. These were: 1) literature dealing with intramural sports programs and 2) guest lecturers who

outlined various intramural programs. Though the specific alternatives reported by these interviewees varied, they were all concerned with eliminating various aspects of the interschool sports program.

Problem 7

"Were solutions and strategies tested to verify feasibility and practicality?" Eighty-three per cent of the thirty people interviewed were aware that solutions were tested. Though no formal means of testing were reported, forty-three per cent communicated that all of the generated solutions were tested informally, while forty per cent commented that only the final proposal for change was tested by presenting it at a staff meeting.

Problem 8

"Was a priority solution and strategy selected?" Of the thirty people interviewed, ninety-three per cent were aware that a solution had been selected and implemented. All ninety-three per cent reported that it had been decided to expand the intramural program, while ninety per cent of respondents further commented about various aspects of the interschool program which would be eliminated. Of the people who reported that a solution had been selected only forty-six per cent were able to comment on how this selection had been made. Furthermore, these forty-six per cent were able to describe how the innovation was implemented. They reported that implementation occurred during both the 1975-76 and the 1976-77 school terms. Implementation activities which were reported appear to focus on: 1) developing structural supports for the innovation, 2) creating an awareness of the innovation, 3) educating staff and students about the

intramural program, and 4) creating an acceptance for the innovation. Interviewees also identified various barriers to, and facilitators of, this innovative attempt. Identified barriers included four areas: 1) the committee, 2) the staff, 3) the students, and 4) the central office and other schools. Reported facilitators included five areas: 1) the administration, 2) the committee, 3) the staff, 4) the students, and 5) the innovation itself. Deficiencies, which interviewees noted in the innovative attempt, included five areas: 1) the committee, 2) the development of the innovation, 3) the innovation itself, 4) the implementation of the innovation, and 5) the evaluation of the innovative attempt.

Problem 9

"Was the performance effectiveness of the solution evaluated throughout the change process?" Seventy per cent of the interviewees were aware of some form of evaluation. These people commented that the only type of formal evaluation that has occurred was the keeping of records regarding the frequency of participation of staff and students in the intramural program. Only the Intramural Director reported that formal plans to evaluate the innovative attempt were developed, but further commented that they had not been carried out.

Conclusions and Implications

The conclusions and implications discussed in this section are based upon the analysis of a case study of an educational innovation. Miller's "Model of a Systems Approach to Problem-Solving" was used as an analytical model.

The Relevance of Miller's Model to the Process of Educational Change

The major problem which this study focused on was--"To what extent does Miller's 'Model of a Systems Approach to Problem-Solving' facilitate an understanding of the processes involved in a planned change?"

Most of the literature on educational change suggests that there is a series of steps which a system passes through as it attempts to introduce an innovation. The first step in the problem-solving process is normally creating an awareness of a problem or deficiency in the operation of the system. That is, are the goals of the system not being achieved, or are the goals themselves no longer appropriate for the system? Once this problem has been identified, a solution is searched for. Information which may be helpful in making this decision is gathered. The third stage consists of making a choice from among the various alternatives. Finally, the innovation is introduced into the system, and its effectiveness evaluated. The model developed by Miller has a somewhat more detailed series of stages: 1) Awareness of and/or need for change, 2) Establishment of new and/or redefinition of existing goals, 3) Identification and definition of problems, 4) Selection and analysis of a priority problem, 5) Derivation of performance requirements, 6) Selection and/or generation of alternative solutions, 7) Testing and verification of solutions, 8) Selection and implementation of a solution, and 9) Evaluation of performance effectiveness.

The problem-solving model is so basic, and so frequently used without question, that the universality of its application is rarely questioned. However, it was found that the innovative attempt did not

follow the exact sequence of stages suggested by the model. The change process did progress through each stage of Miller's model; however, the sequence of stages was different. Miller has developed a distinct sequence through which the stages in his model should proceed. It is important to note that this sequence developed by Miller was not evident in the innovative attempt studied. More specifically, the sequence of stages which was inherent in the innovative attempt studied, along with the sequence of stages of Miller's problem-solving model are presented in Table 12.

Following the first stage of Miller's model--Awareness of and/or Need for Change--the physical education staff jumped to a solution. Specifically, they became aware that the extra-curricular sports program was not meeting the needs of the majority of students and almost immediately concluded that an expanded intramural program was needed. The idea of expanding the intramural program did not come about as a result of an organized search for a solution to a well articulated problem. The idea of an expanded intramural program first attracted the attention of the physical education staff because it seemed to offer all students, regardless of athletic ability, the opportunity to participate in fitness related carry-over activities. This problem was not something new; rather, it was a longstanding concern of the system for which no one had yet been seriously seeking a solution. The committee was then formed to further develop this solution.

Toward the end of developing and implementing the solution, the innovative process did progress through the remaining steps outlined by Miller's model. Specifically, after the jump to a solution had occurred the committee concerned itself with the problems of how to better

Table 12 A Comparison of the Stages of Planned Change

Stages of Miller's Model	Sequence Inherent in Miller's Model	Sequence Inherent in the Innovative Attempt
Awareness of and/or need for change	1	1
Establishment of new and/or redefinition of existing goals	2	6
Identification and definition of problems	3	3
Selection and analysis of a priority problem	4	4
Derivation of performance requirements	5	5
Selection and/or generation of alternative solutions	6	7
Testing and verification of solutions	7	8
*Selection of a solution	8	2
*Implementation of a solution	9	9
Evaluation of performance effectiveness	10	10

*In order to facilitate the comparison of the stages of planned change, Miller's eighth stage -- Selection and Implementation of a Solution -- has been broken down into two stages.

utilize human and material resources, while the implementation aspect focused on what changes would have to be made in the interschool program as a consequence of developing and instituting an expanded intramural program. Moreover, perceptions of the priority problem that was selected to be dealt with, were generally stated problems which easily encompassed both of the aforementioned aspects. With respect to performance requirements, this stage appeared to focus entirely on the development of the solution. That is, a written philosophy and set of objectives were formulated for the intramural program. These were to guide the committee in its efforts to develop an expanded intramural program. When reporting generated alternatives, interviewees focused only on one aspect of implementation; specifically, they focused on changes that would have to be made in the interschool program so as to accommodate an expanded intramural program. It appeared that people were more concerned with the consequences of implementing an expanded intramural program to the interschool program, than with the actual implementation of the intramural program. When reporting the solution which was selected to be implemented, attention focused on both the intramural program and the interschool program. Though not directly reported by interviewees, it may be suggested that the decision to eliminate the junior interschool sports program could be considered as a structural support for the implementation of the intramural program. This decision would result in additional funds, facilities and staff being available for the intramural program. Moreover, it was felt this would hopefully add to the successful adoption of the program.

The committee appeared to be primarily concerned with developing the innovation. Much time and effort were expended on planning the framework and specific details of the intramural program. Moreover, some interviewees commented that the amount of planning that went into the development of the intramural program produced such a well organized program that it facilitated its own adoption. Furthermore, there were no major deficiencies, and very few minor deficiencies reported with respect to the intramural sports program. However, this was not the case with the implementation of the planned changes. It is evident that there was little attempt, if any, to formulate a plan or adopt a strategy for the implementation of the developed changes. The problem of winning the support of all significant groups in the school for a potentially controversial innovation did not appear to be directly dealt with. Perhaps it was felt that the innovation would sell itself once the significant groups became familiar with the intended changes and the rationale for them. However, it does not appear that a systematic attempt was made to educate concerned parties with respect to the rationale and intent of the planned innovation. This is not to say that attempts were not made, for they were. What is suggested, is that persons attempted to create an acceptance for and justify the changes on an individual basis, but with a lack of coordinated effort and congruency.

Little attention was given to planning for the evaluation of the performance effectiveness of the innovation. Only the Intramural Director reported that he had formulated a plan for evaluating the

intramural program; however, he reported that the plan had not been carried out. This suggests that when an innovation is developed for a specific situation, primary emphasis is placed on its development with little attention given to its implementation and evaluation.

Although the innovative attempt did not progress through the sequence of stages outlined by Miller, the model does appear to be appropriate for analyzing the process of change. Moreover, it could be utilized as a framework to guide administrators in planning change. Specifically, by proceeding through each of the stages inherent in Miller's model the planning and implementation of innovations would become more systematic and perhaps result in an increased acceptance of innovations in educational systems.

Propositions that have been derived include:

1. Inherent in a change attempt are both visible and invisible change agents. That is, there are individuals who can be easily identified as being involved in the change process, and there are individuals who are active and involved in instituting innovations, but are not highly visible.

2. Inherent in the change process are different change agents who function at various levels of the system. For instance, in the innovative attempt studied the principal acted as a change agent in providing structural support for the innovation whereas the physical education staff members acted as change agents in "selling" the innovation to both fellow staff members and students of O'Leary.

3. When an innovation is developed for a specific situation primary emphasis is often placed on its development, with little attention given to its implementation and evaluation.

4. The process of change often proceeds from an awareness of a need for change to the selection of a solution; that is, a "problem to solution jump" is often inherent in the change process.

Implications for Future Research

Based upon the conclusions reported in the previous section, the following suggestions for future research are made:

1. Studies are needed which focus on the applicability of the problem-solving framework as a model to guide educational change attempts.

2. Studies are needed which test various models by applying them to actual innovative attempts in order to facilitate a more comprehensive understanding of the innovative process.

3. Studies are needed which focus on the stages which planned change progresses through. The basic phases which seem to be inherent in the innovative attempt appeared to be: a) Awareness of and/or need for change, b) Generation of a solution, c) Development of the solution, d) Implementation of the solution, and e) Evaluation of the solution's effectiveness.

4. Studies are needed which focus on the transition from an awareness of and/or identification of a need for change to the generation of a solution.

5. Studies are needed which focus on the development of the innovation itself.

6. Studies are needed which focus on the implementation of the innovation.

7. Studies are needed which focus on the evaluation of the innovation's effectiveness.

Implications for Educational Administration

Several of the conclusions and implications of this study are important to practicing educational administrators. However, the findings of the study are by no means conclusive and until they have been verified, the implications must remain tentative. These include the following:

1. When planning change, administrators should utilize an appropriate framework to guide and facilitate their planning efforts.

2. Miller's "Model of a Systems Approach to Problem-Solving" would be an appropriate framework for administrators to use as a guide when planning for change.

3. Administrators should guard against the "problem to solution leap".

4. Administrators should systematically plan for the development, the implementation, and the evaluation of the innovation.

5. Administrators should place at least as much emphasis on planning the implementation of the innovation and the evaluation of the innovation's effectiveness as they do on developing the innovation.

6. Administrators should evaluate both the performance effectiveness of the innovation and the process by which change took place.

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APPENDIX A

STAFF INTERVIEW SCHEDULE

Interview Schedule (Prepared and Administered by the Researcher)

STAFF INTERVIEW SCHEDULE

PART I . DEMOGRAPHIC DATA

1. Name _____ _____
   Surname First Name

2. Specific position held during the 1975-76 school term, i.e. math teacher, english teacher, vice-principal, etc.

   _____

3. Specific position held during the 1976-77 school term.

   _____

4. Including this year, how many years have you worked at O'Leary?

   _____

5. Prior to the 1976-77 school term, had you been associated with the extra-curricular sports program?

   YES _____ NO _____

   If yes, a) in what capacity in the intramural program?

   _____

   b) in what capacity in the interschool program?

   _____

6. Are you presently (1976-77 school term) associated with the extra-curricular sports program?

   YES _____ NO _____

   If yes, a) in what capacity in the intramural program?

   _____

   b) in what capacity in the interschool program?

   _____

STAFF INTERVIEW SCHEDULE

PART II ANALYSIS OF THE CASE

Stage One--Awareness of and/or Need for Change

With respect to the extra-curricular sports program offered during the 1975-76 school term:

1. What major changes did you feel were needed?

2. During the final months of the 1975-76 school term were you aware that the physical education staff had focused attention on a need for change in the extra-curricular sports program?

   a) If so, would you please elaborate on this need for change and how you became aware of it.

   b) If not, when did you become aware that attention had focused on a need for change and would you please elaborate on this need for change and how you became aware of it?

State Two--Establishment of New and/or Redefinition of Existing Goals

Once attention had focused on a need for change:

1. Did you perceive that the goals or objectives of the physical education department with respect to the extra-curricular program had undergone changes?

   a) If so, would you please elaborate on how they were altered, when they were altered, and who was instrumental in having them altered.

2. Did you perceive that the goals, objectives, or policies of the school with respect to the extra-curricular program had undergone changes?

   a) If so, would you please elaborate on how they were altered, when they were altered, and who was instrumental in having them altered.

Stage Three--Identification and Definition of Problems

With respect to the extra-curricular sports program and the awareness of a need for change:

1. What problems were identified and defined and how this was done?

Stage Four--Selection and Analysis of a Priority Problem

Once problems were identified and defined:

1. What process was used to select a problem to be dealt with and what was this selected problem?
2. How important do you feel the selected problem to be dealt with was?

Stage Five--Derivation of Performance Objectives

Once a problem was selected to be dealt with:

1. What objectives were established in order to aid in solving the problem?
2. How were these objectives established?

Stage Six--Selection and/or Generation of Alternative Solutions

Once a problem was selected to be dealt with and objectives selected to aid in solving it:

1. What sort of attempt was made to generate alternative solutions?
2. What alternatives were generated?

Sgage Seven--Testing and Verification of Solutions

Once alternatives were generated:

1. What process was used to test alternatives with respect to their feasibility and practicality?

Stage Eight--Selection and Implementation of a Solution

Once alternatives were generated and tested:

1. What solution was selected to be implemented?
2. What process was used to select this solution?
3. How was the solution implemented?

4. What did you perceive as barriers to this change attempt?

5. What did you perceive as facilitators to this change attempt?

6. What did you perceive as deficiencies in this change attempt?

Stage Nine--Evaluation of Performance Effectiveness

1. What plans were formulated to evaluate the effectiveness of the changes that were made?

2. What changes have resulted from this new extra-curricular sports program?

APPENDIX B

DEMOGRAPHIC DATA ON INTERVIEWEES

DEMOGRAPHIC DATA
ON INTERVIEWEES

Interviewee	Position	Years at O'Leary	Association with Innovative Attempt
1	Social Studies and Italian Teacher	11	None
2	Physical Education Teacher	6	Committee Member; Intramural Participant; Intramural Supervisor; Interschool Coach.
3	English Teacher	4	Intramural Supervisor
4	Assistant Principal	3	Committee Member; Intramural Supervisor; Intramural Participant; Interschool Coach.
5	Automotive Teacher	6	None
6	Science Teacher	9	Committee Member; Intramural Supervisor.
7	Assistant Principal	10	Intramural Participant
8	Drama Teacher	7	None
9	Mathematics Teacher	9	None
10	Beauty Culture Teacher	5	None
11	Mathematics and Business Education Teacher	5	Committee Member; Intramural Supervisor.
12	Assistant Principal	7	None
13	English and Pontoon Teacher	6	None
14	English Teacher	2	Intramural Supervisor for 3 months.

Interviewee	Position	Years at O'Leary	Association with Innovative Attempt
15	Guidance Counsellor	4	Committee Member; Intramural Supervisor; Intramural Participant; Interschool Coach.
16	Mathematics Teacher	8	Intramural Supervisor; Intramural Participant.
17	English Teacher	2	Committee Member; Intramural Participant; Interschool Coach.
18	Principal	17	Principal Overseer
19	Physical Education Teacher	3	Committee Member; Intramural Supervisor; Intramural Participant.
20	English and Religion Teacher	10	Committee Member; Intramural Supervisor; Intramural Participant.
21	Religion Teacher	11	None
22	Science Teacher	6	Committee Member; Intramural Supervisor; Intramural Participant.
23	Food Science Teacher	3	Interschool Coach
24	Guidance Counsellor	3	Committee Member; Intramural Supervisor; Intramural Participant.

Interviewee	Position	Years at O'Leary	Association with Innovative Attempt
25	Mathematics Teacher	13	Committee Member; Intramural Participant; Interschool Coach.
26	Physical Education Teacher	4	Committee Member; Intramural Director; Intramural Participant; Interschool Coach.
27	Social Studies Teacher and Student Activities Department Head	8	Interschool Coach
28	Mathematics Teacher	2	Intramural Supervisor
29	French Teacher	2	Interschool Coach
30	Physical Education Teacher	2	Committee Member; Intramural Supervisor; Intramural Participant; Interschool Coach.